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STRENGTHENING TUBERCULOSIS CONTROL IN UKRAINE PROJECT

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**ANNUAL REPORT**  
**OCTOBER 1, 2013 – SEPTEMBER 30, 2014**

October 20, 2014

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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.



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## ACRONYMS

ACSM	Advocacy, communications, and social mobilization
AR	Autonomous republic
ART	Anti-retroviral therapy
CoE	Center of excellence
CMC	Central medical council
CKS	Clinic knowledge summaries
DOT	Directly observed treatment
DOTS	Directly observed treatment, short-course
DRS	Drug resistance survey
DST	Drug susceptibility testing
EQA	External quality assurance
GF	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GoU	Government of Ukraine
GTBI	New Jersey Medical School Global Tuberculosis Institute
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
HCW	Health care worker
IC	Infection control
IPT	Isoniazid prevention treatment
IEC	Information, education, and communication
IQA	Internal quality assurance
KAP	Knowledge, attitude, and practice
M&E	Monitoring and evaluation
MDR-TB	Multidrug-resistant tuberculosis
MoH	Ministry of Health
NAA	Nuclear Acid Amplificatory
NGO	Nongovernmental organization
NICE	National Institute for Health and Care Excellence
NRL	National Reference Laboratory
NTP	National Tuberculosis Program
OR	Operational research
PAL	Practical approach to lung health
PITC	Provider initiated testing and counselling
PHC	Primary health care
PLWH	People living with HIV
PMDT	Programmatic management of drug-resistant TB
PPE	Personal protective equipment
R&R	Recording and reporting
SES	State Sanitary and Epidemiological Service
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOPs	Standard operating procedures
STbCU	Strengthening Tuberculosis Control in Ukraine
TB	Tuberculosis
TIRC	TB Training and Information Resource Center
TOT	Training of Trainers
UCDC	Ukrainian Center for Socially Dangerous Diseases Control
URCS	Ukrainian Red Cross Society
USAID	United States Agency for International Development
UV	Ultraviolet

VTC	Voluntary testing and counseling
WHO	World Health Organization
XDR-TB	Extensively drug-resistant tuberculosis

## EXECUTIVE SUMMARY

### Project Overview

USAID's five-year Strengthening Tuberculosis (TB) Control in Ukraine (STbCU) project — implemented by Chemonics International in partnership with Project HOPE and the Global Tuberculosis Institute (GTBI) at Rutgers, the State University of New Jersey — seeks to improve the health status of Ukrainians by reducing the burden of TB through specific quality assurance and system strengthening measures for routine TB services, multidrug-resistant TB (MDR-TB), and TB/human immunodeficiency virus (HIV) co-infection. This report summarizes key accomplishments and progress by objective for Year 2 (October 1, 2013 – September 30, 2014).

### Accomplishments Summary

#### **Objective 1: Improve the quality and expand availability of the WHO-recommended DOTS-based TB services**

- National protocols on TB and TB/HIV case management were updated with project assistance according to evidence-based approaches and are currently under review by the Ministry of Health;
- External Quality Assurance (EQA) has been institutionalized in all USAID-sponsored regions, with all Level I laboratories undergoing panel testing and most completing at least one other EQA procedure;
- 318 TB patients at high risk for not following up with their TB treatment received TB drugs under direct observation by Red Cross nurses through a project grant; and
- Approximately 719 health care providers successfully completed project-organized trainings and started applying best practices in TB detection, treatment and prevention at their workplace, as evidenced by follow-up mentoring visits.

#### **Objective 2: Create a safer medical environment at the national level and in USAID-supported areas**

- Eighty two (82) specialists from laboratories, SES, penitentiary service, TB service, AIDS service, and the Ministry of Health participated in project-sponsored trainings on infection control. More than 2,500 specialists were targeted with TB IC awareness materials; and
- By making operational project-supported IC plans, 32 new health care facilities implement (for a total of 56) improved TB infection control measures, including assessment of transmission risk within facilities; distinguishing high-risk zones; separation of patients in accordance with resistance profiles and contagiousness; establishment of outdoor sputum collection points; and usage of personal protective equipment (PPE) and ultra-violet (UV) radiators.

**Objective 3: Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB at the national level and in USAID-supported areas**

- Successful models of cooperation between the primary health care system, AIDS centers, and other specialized medical care systems with DOTS based service provision were developed in Kryvyi Rih and presented to all supported regions;
- 12 out of 14 third level laboratories designated by the MOH Order and performing culture tests and DST in project-supported regions operate in line with EQA procedures; and
- Skills and knowledge of PMDT of 99 health specialists (including from the penitentiary system) through five training events were improved, as confirmed by follow-up mentoring visits.

**Objective 4: Improve access to TB/HIV co-infection services at the national level and in USAID-supported areas**

- Consistent use of project-developed and sponsored PLWH screening process (including screening forms and referral monitoring database) for signs of TB has been shown to significantly increase treatment efficiency and patient survival;
- Project-developed screening questionnaires were administered to 94 percent of people living with HIV/AIDS (PLWH);
- National TB/HIV M&E Plan proposals submitted to and accepted by UCDC;
- Regional regulations to streamline TB/HIV policies and guidelines to improve cooperation between TB and HIV services were approved by Odesa, Zaporizhzhia, Donetsk, and Luhansk health administrations; and
- Proper sputum collection practices were implemented in all AIDS centers in USAID-supported regions

## I. ACCOMPLISHMENTS BY OBJECTIVE

**Objective 1: Improve the quality and expand availability of the WHO-recommended DOTS-based TB services.**

**Activity 1.1: Build institutional capacity to improve the quality of DOTS-based programs.**

Per Task 1.1.1, to strengthen the formal medical education system to include internationally recognized, modern approaches to TB control, the project continued to help incorporate international TB care standards into the pre- and postgraduate medical education curricula.



**Participants of the project-organized TOT for 11 chairs of family medicine departments at medical universities in USAID-supported regions**

During the Fifth National Congress of TB Specialists in Ukraine (November-December, 2013), STbCU coordinated a session for Ukraine's leading educators of TB, and then organized a trainer of trainers (ToT) for 11 trainers of family medicine departments at medical universities in USAID-supported regions (see 1.1.3).

These events triggered ongoing cooperation between project specialists and university staff which resulted in updated academic guidelines and curricula and professors that were newly motivated

to provide consultancy services on challenging TB diagnostic and management cases to regional Central Medical Councils (CMC) in Kharkiv, Zaporizhzhia, and Donetsk oblasts; the Autonomous Republic (AR) of Crimea; and Sevastopol and Kyiv cities. During Year 2, the following materials, to which the project made significant contributions, were included into regular medical education and became widely used by specialists:

- *Ministry of Health (MoH) guidelines for local TB case management protocols at primary health care (PHC) facilities.* The guidelines are in routine use during family doctors' continuing medical education and in their daily operations, and the project's mentoring teams consistently promote the guidelines during the on-the-job visits (see 1.1.5). The guidelines are available through the Training and Information Resource Center (TIRC) hosted on STbCU's website: <http://stbcu.com.ua/2014/guidelines-local-protocols/> and 5,000 copies were distributed to most Ukrainian PHC facilities. Operating procedures for PHCs developed by the project became a major part of the document. Key aspects of the guidelines were included earlier into the project-developed manual "*Tuberculosis: Schemes and Charts for PHC Medical Personnel*"; the manual is currently being distributed among PHC personnel and had received the positive feedback from health care workers (HCWs) and medical administrations (see 1.1.6).
- *MoH guidelines on cough management.* The project supported the selection and translation of key principles consistent with the practical approach to lung health (PAL) into the guidelines. The document is currently undergoing public discussion and is posted on the MoH's website ([http://www.moz.gov.ua/ua/portal/dn\\_20140625\\_0.html](http://www.moz.gov.ua/ua/portal/dn_20140625_0.html)) (see

1.2.3). Key recommendations of the draft guidelines are already being advocated by the National Medical Academy of Post-Graduate Education.

- *MoH guidelines on TB/HIV-associated military and extra pulmonary tuberculosis: evidence-based approaches to case management.* The project assisted with inputs and provided illustrations. The guidelines have been endorsed by the Academic Board of the National Medical University and are under approval of the MoH. Extracts from the guidelines are available at: <http://stbcu.com.ua/en/2014/tuberkuloz-shkiry/>
- *The State Sanitary and Epidemiological Service of Ukraine (SES) informational letter on planning and implementation of SES mentoring visits to health-care facilities that provide TB care.* This letter, initiated in part by the project, provides a definition of mentoring, presents the legal and regulatory framework for conducting mentoring visits, and provides a list of services that can be provided through SES mentoring visits.
- *The short-term course on TB case management in PHC facilities.* The course material has been approved by the Scientific Council of the National Medical Academy for Post-Graduate Education.
- *The TB section of the “Standard Academic Curriculum for Pre-Graduate Medical Education.”* The project provided recommendations on how to update this section.

Another significant development in Year 2 was the Ukrainian Health Ministry’s Order No. 620 of September 4, 2014, which updated the December 2012 Unified Clinical Protocol on Tuberculosis. The document now includes important corrections for which the project, WHO, and Global Fund (GF) advocated throughout Year 2 to eliminate discrepancies with WHO-recommended standards. The most important updates include:

- Necessity of DOTS at the primary healthcare level in private clinics as well as in state healthcare facilities
- Revised standard and individual regimens of TB and MDR-TB treatment
- Use of only evidence-based isoniazid preventive therapy (IPT) regimen for six months
- Recommendation of IPT after recovery only for people living with HIV/AIDS (PLWH)
- Prioritizing outpatient TB care, including smear-positive patients, and clarified criteria for hospitalization
- Clarified definition according to International Disease Classification
- Clarified terms of treatment termination

In addition, STbCU helped Ukrainian counterparts in the preparation of the Global Fund application on TB/HIV as Ukraine became one of the first countries to prepare a joint TB-HIV proposal. Since the Global Fund is facing reduced budgets, the government’s approach had to integrate effective partnerships of governmental and nongovernmental stakeholders and revise existing approaches in HIV and TB fields to make them more effective, less expensive, more focused on country priorities, and in line with international best practices and evidence-based medicine. This collaborative process encouraged a shift toward an integrated approach rather than traditional vertical TB and HIV services and Soviet style of managing TB and related diseases.

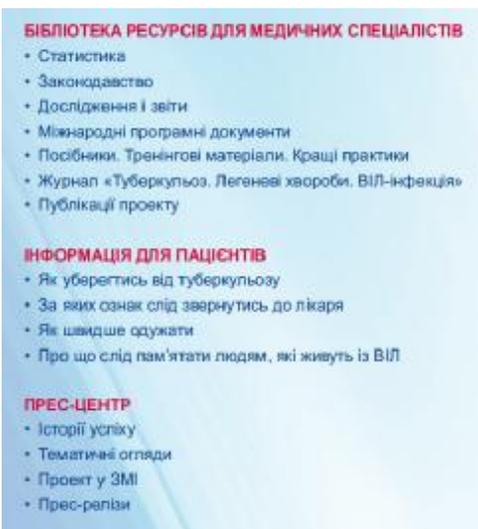
The STbCU team provided considerable technical assistance to the application process, including re-focusing TB control activities to ambulatory care. The GF is now negotiating with Ukrainian officials on some requirements that must be fulfilled before the proposal is approved, e.g. revision of TB legislation according to WHO recommendations and implementation of outpatient directly observed therapy (DOT) services.

At the request of the Ukrainian Center for Socially Dangerous Disease Control (UCDC), in Year 2, the project began implementing an outpatient model of TB treatment as an evidence-based, safe alternative to inpatient treatment for most cases. The model is being piloted in the city of Kryvyi Rih in Dnipropetrovsk oblast. The model and the results of the pilot program were presented at a conference on TB reforms jointly sponsored by UCDC, the State Service on Socially Dangerous Diseases (State Service), and STbCU held a conference in September 2014. For example, in Kryvyi Rih 30 DOT sites are providing TB and PHC facility-based outpatient treatment for 289 patients, and special attention is being paid to proper drug management and streamlining patient flow.

At the end of Year 2, the project performed an assessment to compare existing in- and outpatient TB care models using the city of Kryvyi Rih as an example. The assessment included both case management and cost components. Preliminary results show that one ambulatory DOT service is approximately 14 times less expensive than one day in the hospital. The results of this assessment proved the cost-effectiveness of the ambulatory TB care model and can be used as the basis for developing and piloting a new TB care ambulatory model in Kryvyi Rih.



**Kryvyi Rih outpatient clinic providing TB diagnostics and treatment**



**The inside page of online resources**

For Task 1.1.2, establish a TB Training and Information Resource Center, in partnership with UCDC and the State Service on HIV and Other Socially Dangerous Diseases, the project continued work on the online TB Training and Information Resource Center (TIRC). Based on UCDC's commitment to hosting the TIRC, STbCU is developing a web-based platform that will be integrated into the [ucdc.gov.ua](http://ucdc.gov.ua) domain; the TIRC interface and content will also receive main-page placement on UCDC's website. The process of TIRC development required more time than originally expected and will continue through the first half of Year 3. One of the primary reasons for the expanded timeline is the need to coordinate the development of the site with UCDC while it is in the process of organizational restructuring, re-branding, and re-

designing its own site.

Meanwhile, content development for the TIRC continues; the project is temporarily hosting content on its own website and through the website of the Dnipropetrovsk training center (<http://fiziatr.org.ua/>). There are more than 70 essential TB-related documents on the site, including training materials, international recommendations and national regulations, proceedings of studies and international conferences, project-translated international guidance, videos, and project publications for health providers.

To increase partner awareness of information available on the project's website, news updates were shared in real time with national and regional stakeholders through e-mail, as well as through the project's monthly bilingual newsletter and promotion of the site at public events and trainings. In addition, 2,000 promotional flyers about the library of online resources available on the site were published and disseminated during all project's activities. Traffic to the project's website has dramatically increased from 300 visits per month in September 2013, to 900 visits in September 2014.

Per Task 1.1.3, to provide training, refresher training, supervision, and mentoring for health care providers, the project completely implemented its training plan; 719 participants took part. Apart from the routine training program, including trainings on TB case management at the primary health care (PHC) level, TB detection on sputum microscopy, TB IC, and MDR-TB case management, this year the project successfully implemented a range of new training programs, including:

- Training of trainers (TOT) on TB case management in PHC facilities for faculty members of medical universities — one five-day training.
- TB case detection in Level II laboratories — two five-day trainings.
- TB infection control in laboratories — two five-day trainings.
- Data processing and Internet searches for TB control resources — two two-day trainings (in collaboration with the Bibliomist program).
- Programmatic and clinical management of TB for nurses — one five-day international training in Tomsk, Russia.
- Programmatic management of TB/MDR-TB cases — one five-day international training in Tartu, Estonia.
- HIV testing and counselling HTC for NGOs — two two-day trainings
- Treatment adherence of TB/HIV patients and HTC in TB patients for NGOs and social workers — two two-day trainings.

To strengthen technical aspects of the existing training curricula and optimize expenditures, the project used Skype to link to national and international leading experts into educational events. For example, Pierpaolo de Colombani, a medical officer at World Health Organization, led selected training sessions at the Dnipropetrovsk Center of Excellence (CoE). Dr. de Colombani presented current epidemiological data on TB, MDR-TB, and XDR-TB in Europe and around the world, with particular focus on the characteristics of the TB epidemic in Eastern European



**Remote lecture of Pierpaolo de Colombani in the Dnipropetrovsk Center of Excellence**

countries and the common challenges Eastern European countries face. The presentation was followed by active discussion. In addition, national TB IC experts from Kyiv participated in HTC trainings for NGOs. Because many NGO members live with HIV and thus are susceptible for TB, the experts emphasized the necessity to be consistent with proper infection control (IC) practices.

The project also designed a set of training materials on TB IC in laboratories. The project facilitated modification of pre-existing training materials for specific training audiences, such as the TB culture test training for Level II laboratories and the HTC training for NGOs. All project-developed training materials are available on the TIRC. In addition, STbCU organized two on-the-job trainings of TB and MDR-TB cases (one two-days training) and TB/HIV case management (two two-day trainings). These trainings were based on analyses of the health facilities day-to-day performance and the most typical mistakes made.

#### **Putting Theory into Practice**

Following the training on data processing and Internet searching for TB control resources for laboratory specialists (March 25-26, Odesa) third-level laboratory specialists in Kyiv, Odesa, Kherson, and Zaporizhzhia developed electronic laboratory logs and continually use them to compare results of sputum smear microscopy, molecular, and liquid and solid media based cultural tests.

During Year 2, the project significantly expanded its training impact by targeting health care workers (HCWs) in the penitentiary sector, training 76 physicians and laboratory specialists. Project trainings have led to effective dissemination of knowledge based on STbCU's cascade training philosophy and observed through regular mentoring activities (see 1.1.5).

To illustrate the benefits of applying evidence-based approaches, the project continuously analyzes programmatic results achieved with government counterparts. In cooperation with national and regional experts, the project presented these results through the following outlets:

- Second National Scientific Conference on AIDS titled “For Every Life—Together.” (See 4.1.3.) <http://stbcu.com.ua/en/2013/1836/>
- The 44th Union World Conference on Lung Health. Posters covered TB awareness raising, infection control reform, and EQA in Ukraine. [http://www.worldlunghealth.org/conf2013/images/1\\_Paris2013/Forms/ABSTRACT\\_BO OK\\_2013\\_Web.pdf](http://www.worldlunghealth.org/conf2013/images/1_Paris2013/Forms/ABSTRACT_BO OK_2013_Web.pdf)
- Fifth National Congress of TB specialists (November 6-8, 2013). <http://stbcu.com.ua/wp-content/uploads/2013/11/MTBDRPlus.pdf>

Other knowledge-sharing activities include an article titled “Organization and Lessons of Pilot Research of Prevalence of MDR-TB in Ukraine,” published by the Scientific Journal of Zaporizhzhia Post-Diploma Medical Academy. The article detailed the pilot of the all-Ukrainian drug-resistance survey. The project also submitted abstracts to the 45th Union World Conference on Lung Health (to take place October 28-November 1, 2014). Four abstracts (Patient’ Diary, DRS Pilot, Streamlining TB/HIV detection, and Smear Microscopy EQA) were accepted for oral and/or poster presentations.

Per task 1.1.4, increase TB laboratory network efficiency, the project continue to ensure the quality of laboratory diagnostics and sputum smear microscopy through EQA in the USAID-supported oblasts by assisting oblast TB facilities in developing and revising local orders on

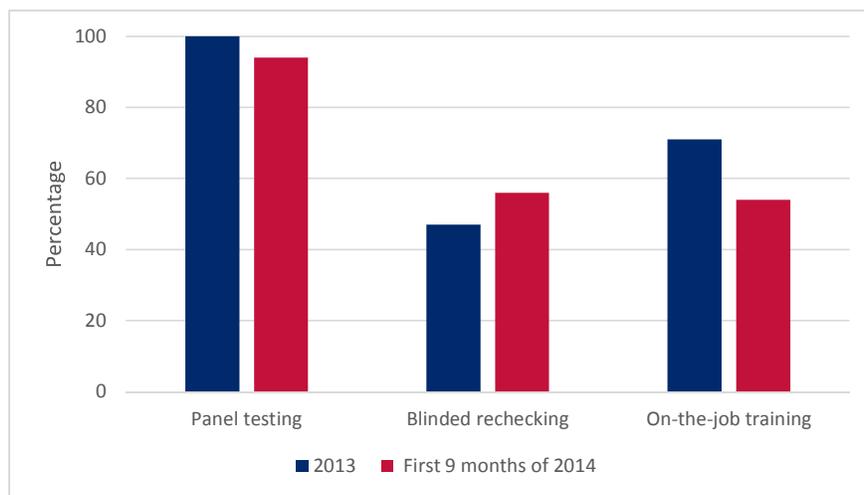
EQA and scheduling the EQA rounds using different techniques. Today, all STBCU-supported regions have local EQA orders that are based on national regulations and are consistent with international recommendations.

In 2013, 339 of 340 Level I laboratories were covered by EQA (the one exception was a laboratory in AR Crimea); therefore, coverage was 99.7 percent. The success of Odesa, Zaporizhzhia, and Luhansk oblasts and AR Crimea is worth special mention. Moreover, in 2013 STBCU revealed problems in their performance and focused on solving them by providing technical support in organizing panel testing rounds, instructions on blind smear selection, mentoring visits to lower level laboratories, training laboratory personnel in formal and on-the-job trainings.

In 2013, 300 out of 340 Level I laboratories in 10 USAID-supported regions achieved excellent panel testing results: 88.24 percent of Level I laboratories which earned 95 points or more in panel testing in the reporting period. This exceeds STbCU’s Year 2 target of 81.6 percent, as well as the 74.3 percent achieved in Year 1.

In Year 2, Level III laboratories in Dnipropetrovsk, Kharkiv, Kherson, Odesa, and Zaporizhzhia oblasts, as well as the city of Kyiv significantly accelerated the process of EQA. By September 30, in these regions 92 percent and 48 percent of Level I laboratories had undergone panel testing and blinded re-checking, respectively, and 52 percent have received on-the-job mentoring. In Donetsk oblast, prior to the onset of the armed conflict, 14 percent of Level I laboratories had undergone panel testing and blinded re-checking, and 8 percent had received on-the-job mentoring. Thus the results of nine months of 2014 are comparable with the results of all of 2013.

**Exhibit 1. EQA in Level I Laboratories in 2013 and in First Nine Months of 2014**



In Year 2, the project continued actively working in the regions on sputum smear microscopy EQA. By the end of the reporting period, four regions, including Odesa, Kharkiv, and Kherson oblasts, as well as Kyiv city, completed EQA panel testing of sputum smear microscopy for 2014. Other oblasts will continue the process by the end of the calendar year.

STBCU used the previous two years of experience in laboratory diagnostics quality improvement to focus on the following issues in EQA implementation:

- Mandatory panel testing for EQA annually.
- Repeated panel testing in laboratories where problems were revealed (after analyzing errors and organizing additional training for the laboratory staff).
- Active involvement of two other EQA techniques: blinded smear rechecking and mentoring visits.
- Standard set of smear samples in the panels.
- Complicating the tasks/smear set in the panels for the laboratories experienced in EQA.
- Standard fulfillment of panel testing protocols.
- Availability of protocols for panel testing, blinded smear rechecking, and mentoring visit checklists in the supervising and the tested laboratories, to substantiate the EQA and its results.
- Feedback between supervisors and the tested laboratories.

The project hosted seven conferences for chief TB doctors and 280 laboratory diagnostics specialists in seven regions to discuss these issues. At the conferences, the project presented EQA results for the previous year, analysis of errors revealed by different EQA techniques, and its work plan for the upcoming year. Sets of smears for panel testing for the next EQA round were also disseminated in these conferences, as well as the protocols and the results of the previous round of panel testing.

STBCU continuously monitors the quality of laboratory investigations and uses this data to select participants for its training activities. During Year 2, the project conducted five trainings for 55 laboratory diagnostics specialists and provided on-the-job training for six Level I laboratory staff from Kherson and Zaporizhzhia oblasts. To control EQA and internal quality assurance procedures and to monitor quality at the pre-laboratory stage, as well as collaboration between clinical and laboratory services, STBCU's laboratory diagnostics specialist visited four Level I laboratories in Kharkiv oblast as a member of the mentoring team. Next year, the project will continue such targeted visits to the most problematic raions of the USAID-supported oblasts.



Per Task 1.1.5, to strengthen TB-related M&E systems and TB surveillance systems, STbCU focused primarily on strengthening M&E at the national level in cooperation with the UCDC, which is charged with coordinating international projects on TB. Seven meetings were held with the UCDC representatives to discuss options for streamlining the national M&E system and improving TB treatment outcomes.

At the request of the UCDC, the project's M&E specialist has started working with the UCDC M&E Center to draft the "National Plan for Monitoring and Evaluation of TB Data." Because Ukraine currently gathers too much data that are not properly analyzed, the UCDC intends to cut the number of national indicators on TB, and improve their analysis. By the end

of the project year, a list of 15 key indicators for national M&E of the TB Program were developed and presented to the UCDC M&E Center. The work will be continued next year. The project also participated in working group organized by State Services on the National TB M&E Plan.

STbCU and UCDC staff also have been conducting joint mentoring visits during Year 2. In December, project staff and UCDC representatives conducted a mentoring visit to AR Crimea, observing significant improvements in TB and MDR-TB case management, implementation of TB IC measures, and use of the recording and reporting system. In April, project and UCDC staff visited Dnipropetrovsk oblast to develop the pilot TB ambulatory care model at the Kryvyi Rih city TB dispensary. After implementation, the pilot program's results were presented at the National Seminar on TB Reform in September 2014. During the same visit, STbCU, UCDC, Systems for Improved Access to Pharmaceuticals and Services (SIAPS) project, and state penitentiary staff met with representatives of the Dnipropetrovsk oblast penitentiary department to discuss cooperation. To improve the quality of TB care in the oblast's penitentiary system, the meeting participants agreed to include the penitentiary's HCWs in project-organized trainings and events, to present TB cases detected in the penitentiary at the oblast TB Medical Council, and to start using E-TB Manager at the penitentiaries.

In addition to its work with the UCDC on the National TB M&E Plan, the project also joined the national working group on HIV monitoring and evaluation. In this role, the project advocated for including indicators related to TB/HIV co-infection into the national M&E plan on HIV, which is currently being revised. The project also contributed to development of specific TB/HIV indicators for monitoring TB/HIV co-infection to the draft National Program Combating AIDS, the National M&E plan on HIV, and the National M&E Plan on TB.

Mentoring visits to healthcare facilities continue to be at the heart of the project's M&E efforts. STbCU has two main objectives for mentoring visits: to help HCWs in primary healthcare settings to improve the quality of TB detection and treatment; and to assess the sustainability of knowledge of the healthcare staff trained by the project. During Year 2, project specialists and regional coordinators performed 276 mentoring visits to central raion inpatient facilities, central raion outpatient facilities, and PHC points in rural areas in the USAID-supported oblasts. Through these visits, 845 HCWs received on-the-job technical assistance related to TB diagnostics, treatment, and case management; TB IC practices; and the coordination of TB/HIV services. (See Exhibit 3 for more information on the project's mentoring visits. NB: Exhibit 3 does not include mentoring visits to AR Crimea or Sevastopol. Due to current events, the project has not been able to perform any monitoring visits to AR Crimea and Sevastopol since early 2014 or in Donetsk since April 2014. In addition, monitoring visits were not able to be conducted in Odesa in May and June 2014.)

**Exhibit 2. Mentoring Visit Results**

Region	Number of visits	Number of visited facilities		Number of specialists received on-the-job consultation	Topics covered in facilities				
		PHC facilities	TB facilities		TB detection	Laboratories performance	DOT	TB/HIV	TB IC
Donetsk oblast	3	10				25		1	
Dnipropetrovsk oblast	47	157	44	521	40	66	45	39	41
Kharkiv oblast	97	60	27	374	50	93	48	52	133
Kherson oblast	39	43	28	540	33	27	29	22	96
Luhansk oblast	24	52	23	275	16	32	19	22	23
Odesa oblast	12	3	6	179	5	6	5	8	9
Zaporizhzhia oblast	42	40	33	775	37	40	36	44	182
Kyiv city	12	16	5	81	12	11	11	13	11
Total	276	381	166	2745	193	300	193	201	495

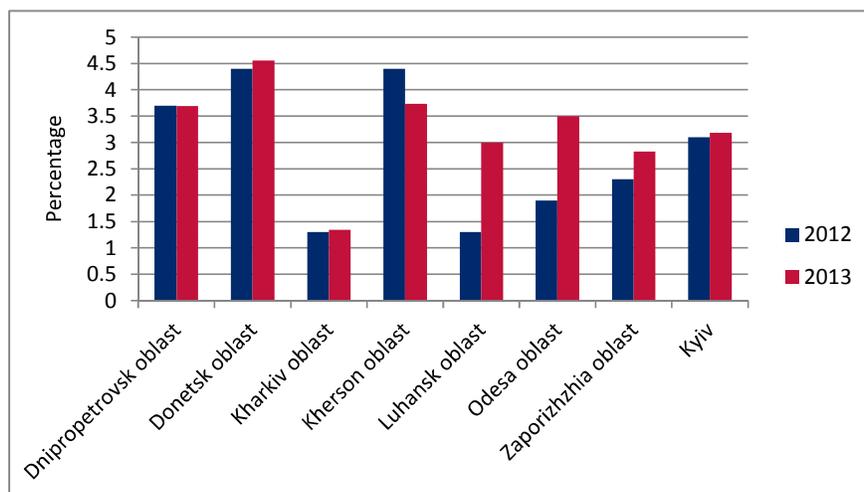
Sites for mentoring visits were chosen based on data showing their need to improve TB detection, diagnostics, and treatment. The project’s regional coordinators evaluated the performance of healthcare staff, revealing gaps in HCWs’ work and analyzing the causes of improper practices. If the cause was a lack of knowledge, STbCU specialists sought to address this issue through mini-conferences or on-the-job training for healthcare staff. If the organization of a facility was the root cause of improper practices, the mentoring group worked with the facility management trying to eliminate such reasons.

Special attention this year was paid to composition of the regional mentoring teams. STbCU regional coordinators insured that joint mentoring teams include leading TB, laboratory, and M&E specialists from the oblast dispensary. During mentoring visits the M&E specialists assess completeness of database maintenance, identify gaps, verify data, and provide recommendations on work improvement. This leads to institutionalization of the mentoring approach and develops capacity of local specialists. For example, the local mentoring team in Odesa oblast led by the chief TB specialist with STbCU’s support mastered the mentoring methodology and will be capable to continue this practice in the future. In Year 3, the project plans to enhance the efficiency of mentoring visits by including into the team other project specialists and conducting joint multi-sectorial visits.

During Year 2, mentoring visits focused mostly on PHC facilities and were also designed to familiarize staff with the new unified clinical TB protocol of primary, secondary, and tertiary care. The protocol clearly defines scope of work of a primary healthcare provider in detecting patients who may have TB. During the visit, regional coordinators conducted mini-conferences for healthcare staff on laboratory diagnostics techniques, infection control, and TB/HIV co-infection management. They also held meetings to discuss cohort analysis with the local TB specialists. Finally, the mentoring team discussed the findings of each visit with

the management of the healthcare facilities to develop the plans to the quality of care. If necessary, chief oblast TB and HIV specialists were involved. The project’s efforts led to improvement of smear case detection at PHC level in five project-supported regions, as shown in Exhibit 4.

**Exhibit 3. Rate of Smear Microscopy TB Detection at PHC Level**



This year, STbCU performed not only primary but also secondary mentoring visits to the selected raions, jointly with the local TB specialists. These visits allowed the project to assess the impact of its activities on the facilities’ performance. The joint mentoring teams conducted 62 secondary visits and assessed level of knowledge of 84 HCWs previously trained by the project. The project’s regional coordinators report that these specialists are better qualified than those who did not attend trainings and use practices they had learned about at the training in their day-to-day performance.

For example, after a mentoring visit and working meeting with the healthcare staff at Sinelnikove raion hospital in Dnipropetrovsk oblast, the local administration closed sputum collection sites in the communicative disease unit and therapy unit, which did not meet IC requirements; established sputum collection sites in in remote three PHC sites; began analyzing the effectiveness of TB detection by sputum smear microscopy; and implemented infection control activities in primary and secondary level facilities. These included patient triage, identification of high-risk zones, calculating the need for respirators and UV lamps, procuring and installing shielded UV lamps in high risk zones, and organizing a communicable disease ward in the treatment department with a UV lamp for patients suspected of TB. In Kharkiv oblast’s Shevchenko raion, a repeat visit to raion TB specialist revealed excellent maintenance of TB R&R forms by the raion TB specialist and excellent maintenance of e-TB Manager. In addition, regulations on IC and the local protocol had been developed; respirators with HEPA filters for staff working in high-risk zones had been procured; and

**Turning Theory into Practice**

Natalia Tunik, deputy chief physician of Novotroitsk raion of Kherson oblast, developed a package of documents to improve operations at the facility, including IC measures, after attending a training called “TB Case Management in PHC Facilities” conducted by the project. During the mentoring visit by the project regional coordinator, Natalia said that knowledge gained during the training helped her develop these documents.

biological samples were being screened for quality at the sputum collection site, in accordance with the existing regulations.

An analysis of regional coordinator reports and field visits shows that the mentoring visits have more impact on healthcare staff performance than monitoring visits. Mentoring is much different from checking, and there is no punitive action taken. Mentoring visits are designed to improve the performance of medical staff, address local concerns and challenges, reveal potential obstacles to effective TB control, and identify feasible solutions to those potential obstacles. Mentoring visits are performed in those facilities where key staff has already participated in project trainings.

The concept of mentoring visits can be found at [http://stbcu.com.ua/wp-content/uploads/2013/11/Cascade-training-approach\\_ENG.pdf](http://stbcu.com.ua/wp-content/uploads/2013/11/Cascade-training-approach_ENG.pdf). The project plans to continue mentoring visits to the USAID-supported oblasts next year adding two new oblasts, Lviv and Kirovohrad.

Per Task 1.1.6, to increase primary healthcare providers' knowledge of the WHO Stop TB Strategy and to improve their day-to-day practices, STbCU developed new printed and web-based IEC materials on major aspects of TB control, including IC, TB/HIV co-infection, and laboratory testing. Specifically, the project developed recommendations on TB IC M&E and on using UV lamps for SES specialists; the TB/HIV Manual; and three posters on emergency algorithms in laboratories: "Emergency in Laboratories," "Emergency in Centrifuges," and "Emergency in Biosafety Cabinets" (a total of 1,800 copies of the posters were printed). The project also shared costs with the State Institute of Family Medicine to publish 5,000 copies of "Guidance on Drafting Local Protocols."

STbCU also began production of an educational video on essential TB case management procedures for PHCs (<https://www.youtube.com/watch?v=bwcqhj2NN-1&feature=youtu.be>). The video describes all essential processes and algorithms in TB detection and treatment, including IC, at the PHC level. When complete, the film will be used at project-organized trainings and meetings for PHC health specialists, and posted on the TIRC, the project's website and YouTube. Fifty copies of the film will be shared with medical universities.

The project continued supporting and promoting online education. Training materials on TB-HIV co-infection, sputum smear microscopy, use of Xpert MTB/RIF, multidrug-resistant tuberculosis were shared and regularly updated at the project site. Announcements on international webinars were posted on the project website and disseminated among the partners and practitioners. The project prepared an unofficial translation of several international guidelines and made them available through its website. These include the third edition of "International Standards for TB Control," two leading documents on PAL, a series of articles on TB/HIV co-infection, WHO Xpert MTB/RIF implementation manual, and WHO-developed sample forms to make EQA reporting easier for Ukrainian laboratory specialists, among others. In partnership with the NGO Infection control in Ukraine the project maintains and regularly updates the infection control page on Facebook. Main users include TB specialists, HIV specialists working in AIDS centers, staff of the sanitary and epidemiological service, and mass media representatives. Finally, the project continued to support the "*Journal on TB, Lung Diseases, and HIV*."

Per Task 1.1.7, to increase laboratory capacity for IC, STbCU organized and conducted a five-day training on biosafety for 21 Level II and Level III laboratory staff from six regions

in August 2014. The training was held in the newly established training center of NGO “Infection Control” NGO, which was founded by the specialists from the SES, including members of the IC expert group established by the project in Year 1. The training included theoretical and practical sessions on biosafety in using laboratory equipment, personal protection, and environmental control. The test results demonstrated that the training participants improved their knowledge by 43 percentage points on the average, with a mean rate of correct answers of 85.6 percent.

In September 2014, STBCU developed posters on the algorithm of biohazard accident management in TB bacteriological laboratories for laboratory staff. The posters were based on 2013 WHO recommendations on TB laboratory biosafety. Three types of posters were developed:

- Algorithm of managing biohazard accidents in biosafety cabinets.
- Algorithm of managing biohazard accidents in high-velocity centrifuges with three levels of biosafety.
- Algorithm of managing biohazard accidents in laboratory premises.

The posters were illustrated with pictures to demonstrate the actions of the laboratory staff in case of different biohazard emergencies. The posters were laminated according to the biosafety rules for paper IEC materials to be posted on the walls in the laboratories processing pure TB cultures. The posters will be disseminated to TB diagnostics laboratories to become a visual aid for laboratory diagnostics specialists.

#### **Activity 1.2: Expand access to TB service delivery to improve prevention, diagnosis, and treatment of TB.**

Per Task 1.2.1, in consultation with USAID, a list of criteria was developed for the project’s annual grants program and in July 2014. STbCU released an annual program statement (APS) for grants to conduct community-based TB advocacy, communication and social mobilization (ACSM) activities. The APS was announced through project’s website, partners’ list-serves and online media, and calls for concept papers from Ukrainian NGOs proposing activities that fit within the project’s mandate to contribute to de-stigmatization and expand patient-oriented practices in USAID’s supported regions. In September, project specialists provided Skype consultations to interested NGOs. All questions and answers discussed during the consultations were published on the project’s website: <http://stbcu.com.ua/2014/faq-grants/>.

Per Task 1.2.2, in February 2014 the project started implementation of a \$500,000 grant to the Ukrainian Red Cross Society (URCS) to improve treatment adherence among TB patients. The grant is designed to provide patient education programs in all of the project’s supported regions. In addition, the four regions with the highest TB burden (Dnipropetrovsk, Zaporizhzhia, Odesa, and Kherson oblasts) will receive DOT services, and patients in Kherson oblast will be provided with food kits. To date, URCS has enrolled 318 TB patients into its patronage services, with 96 TB patients successfully completing their treatment. TB patients have received 323 food kits. STbCU and URCS also developed and distributed informational materials for patients, including 1,500 TB patient diaries and 10,000 discharge forms with TB-related information. By October 2014, 507 TB patients had received the patient diary and counselling services, and 1,719 patients had been provided with informational materials while being discharged from hospitals. Additionally, URCS nurses provided 732 counselling sessions to TB patients and their family members.

Together with URCS' main coordinator, the project monitored grant operations in Dnipropetrovsk, Zaporizhzhia, Odesa, and Kherson oblasts, and determined that the URCS is conducting proper patient selection, providing high-quality DOT-based services, and conducting effective program monitoring. Feedback from regional authorities, health services, and TB patients themselves is that URCS is providing vital support for patients through the project's grant. Finally, during these program monitoring visits, STbCU provided technical support related to TB case management to 81 URCS nurses and volunteers.

Due to current events in Ukraine, planned URCS activities in AR Crimea and Sevastopol had to be terminated in March, and put on hold in Luhansk and Donetsk oblasts in May. STbCU and URCS are standing by to reactivate activities in Donetsk and Luhansk as soon as possible. In the meantime, URCS increased the number of informational materials provided in the six other regions, and may roll out patient education in the project's new regions of Lviv and Kirovohrad oblasts.

Per Task 1.2.3, to strengthen TB services provision at the PHC level, the project continued to support implementation of the evidence-based practices in TB management at the PHC level. In October, 2013 the project advocated resuming the work of the MoH working group on the practical approach for lung health (PAL). This work yielded finalization of the national guidelines on cough management in June 2014 (see 1.1.3). These guidelines are based on the British National Institute for Health and Care Excellence (NICE) philosophy of Clinical Knowledge Summaries, guidelines from the British Thoracic Society, and the PAL approach to cough management in countries with high TB burdens.

Working at the national level, the project also supported the development of formal MoH guidelines for local TB case management protocols at PHC facilities. These guidelines outline the roles and responsibilities of PHC doctors and nurses regarding TB control. They are the first TB-related guidelines for PHC facilities in Ukraine that directly address scopes of work for medical personnel and, therefore, support the institutionalization of evidence-based practices in TB detection and management at the regional level. Operating procedures for PHCs developed by the project became a major part of the document. In December 2013, the guidelines were formally approved by MoH for mandatory use not only in USAID-supported regions but all over Ukraine. In August 2014, the project supported printing 5,000 copies of the guidelines for distribution to each PHC facility (see 1.1.1, 1.1.6). Also the majority of the project's educational materials were addressed to the PHC specialists (see 1.1.6).

Working at the regional level, the project continued focusing its educational activities on PHC specialists as the key figures for TB case management. In Year 2, in keeping with the project's mentoring approach, 1,191 HCWs from 276 PHC facilities received on the on-the-job consultations on TB case detection and outpatient case management through mentoring visits. Three project workshops on TB for PHC workers held in Dnipropetrovsk, Odesa, and Kyiv gathered approximately 150 PHC specialists. The project also encouraged

#### **Mentoring Makes a Difference**

Project mentoring activities led to significant progress in Primary Healthcare Center #5 in Dnipropetrovsk. Following mentoring team advice, facility administration established a triage for coughing patients before medical appointments; and now provide masks to patients and refer them immediately for sputum collection at a specialized point. Doctors also examine patients in a designated room near the sputum collection point. For proper infection control, the facility purchased two high-quality shielded UV radiators for these areas. STbCU also developed informational posters to raise patient awareness of cough as a sign of disease.

PHC specialists' participation in project-supported oblast conferences on local NTP efficiency in Kharkiv and Odesa. The project organized 13 trainings on TB case management in PHC facilities for 283 PHC specialists. In addition, 12 PHC administrators participated in the project-led training on cohort analysis.. These efforts are contributing to significant improvements in everyday practices in PHC facilities, as witnessed during project-led mentoring visits (see 1.1.5).

To support provision TB treatment at the PHC level, the project encourages cooperation among public and private sector actors. Obolon Corporation, one of Ukraine's largest beverage companies, agreed to provide DOT sites in TB and PHC facilities of the city of Kyiv with free mineral water for patients taking their daily treatment and health facilities will establish a permanent system for tuberculosis prevention efforts among "Obolon" employees: employees with cough that lasts more than two weeks will be sent to TB diagnostics by means of sputum microscopy. During the 2014, the Obolon Corporation committed to deliver 1,500 liters of mineral water. To date, Kyiv DOT sites have already received half of this committed amount.

Per Task 1.2.4, the production of information, education, and communication (IEC) materials to improve knowledge of TB among most at-risk populations and the general public, the project produced several IEC materials. These include a poster to increase awareness of AIDS center visitors on TB (see Section 4.3.1) and a PowerPoint presentation on TB symptoms, which was shared by the SES in public places, such as public transport, shopping centers, and waiting rooms. The project also developed a patient's diary and exit form to be distributed by the UCRS through its grant. The electronic version of the Diary is also available at the project's website: <http://stbcu.com.ua/en/resources/guidelines/>

In December 2013, the project produced a highly circulated article titled "Facts About TB: Q&A You Need To Know" (<http://stbcu.com.ua/en/2013/tb-qa-2/>) that was re-published by a range of Internet media, including major counterparts such as the All-Ukrainian Hot-Line on TB and the Foundation for the Development of Ukraine. A total of 25 articles related to this past quarter's activities appeared in the mass media. By the end of Year 2, the media covered STbCU activities with 143 articles.

To encourage proper respiratory protection for healthcare workers, the project delivered 7,000 respirators to regional TB facilities and AIDS centers in USAID-assisted regions. The respirators, which improve IC, were distributed along with detailed instructions on use and proper fitting. In addition, the project provided additional copies of its "How to Wear a Respirator" poster, originally developed in June 2013, to healthcare facilities.



**Participants at the Dnipropetrovsk USAID Field Day gain important TB knowledge using installation "Three facts for your health's sake."**

The project also continued to distribute TB awareness booklets at targeted PHC facilities and through events such as the “Be Healthy!” events that were held at the USAID Field Days in Zaporizhzhia in October 2013 and Dnipropetrovsk in September 2014. More than 760 people received free consultations on TB prevention, diagnosis, and treatment from oblast and city physicians at the project tent at these events.

In addition, STbCU facilitated a variety of events in March 2014 to commemorate World TB Day. In partnership with the Kryvyi Rih city administration, city TB dispensary, and “Zdorovya” Center, the project launched an advocacy campaign in Kryvyi Rih. The aim of the campaign was to improve the availability of outpatient TB services in the city, which has a high TB/HIV burden. The campaign included a TB awareness social advertisement that was placed on a trolley bus that runs along the longest city street in Europe – 124 km. Media coverage of the roll-out of the ad can be seen here:

<http://www.youtube.com/watch?v=1UyXPhXSY30&feature=youtu.be>. In addition, STbCU’s TB IC specialist participated in a press tour to the Kherson oblast TB dispensary and a World TB Day seminar and briefed journalists on the basics of TB infection control and the results of a mentoring visit to Kherson by the SES Expert Working Group on TB IC.

On June 17, 2014, the project facilitated USAID Administrator Rajiv Shah’s visit to the Odesa oblast TB facility. Chief Oblast TB Doctor Svitlana Yesypenko and Head of TB facility Vitaliy Felyuk led a tour around the dispensary and laboratory. They discussed the epidemiological situation in the region, performance of the oblast TB facility, project support, procurement reform in the health sector, and broad health sector reform with local health administrators and TB facility staff. The visit attracted significant media coverage with a total of 37 project-related articles.



**USAID Administrator Rajiv Shah: “After visiting Odesa TB facility, I was impressed by the professionalism of local doctors, nurses, and laboratory specialists. They possess a high level of expertise, and treat patients based on state-of-the-art techniques. This is really amazing.”**

Finally, the project prepared four success stories in Year 2. (Please see Annex B).

### **Activity 1.3: Conduct operational research to improve the National TB Program’s (NTP) performance.**

In Year 2, the project developed a request for applications (RFA) on operational research to improve policy-making. To develop the RFA, STbCU researched relevant topics for operational research to identify areas with the greatest potential impact. The project also held meetings with potential grantees to discuss its operational research program. On October 9, 2014, the project posted its request for applications (RFA) for the research program. In Year 3, the project expects to oversee up to six small grants with research institutions, as well as to build national capacity for conducting such research in the future.

**Exhibit 4. Objective 1 Accomplishments**

<b>LOP Expected Results</b>	<b>Accomplishments to Date</b>
<p>Adoption of international standards for TB control and facilitation of implementation at the national level and in all TB technical areas.</p>	<ul style="list-style-type: none"> <li>• Educational materials, to which the project made the significant contribution, were included into regular medical education and became widely used by specialists : Ministry of Health (MoH) guidelines for local TB case management protocols at PHC facilities; MoH guidelines for TB/HIV-associated military and extra-pulmonary tuberculosis and evidence- based approaches to case management; and the SES informational letter on planning and implementation of its mentoring visits to health-care facilities that provide TB care.</li> <li>• The short-term course on TB case management in PHC facilities has been approved by the Scientific Council of the National Medical Academy for Post-Graduate Education.</li> <li>• The TB section of the Standard Academic Curriculum for Pre-Graduate Medical education has been updated according to the project's recommendations.</li> <li>• The Ukrainian Health Ministry's Order #620 of September 4, 2014 updates the Unified Clinical Protocol on Tuberculosis, endorsed in December 2012. Now the document includes important corrections which the project promoted to eliminate discrepancies with WHO-recommended standards.</li> <li>• STbCU experts provided considerable technical assistance to the GF proposal preparation, as well as to re-focusing TB control activities to ambulatory care.</li> <li>• The project helped to develop and pilot an evidence-based outpatient model of TB treatment in Kryvyi Rih.</li> </ul>
<p>Development of the NTP's cascade in-service training system using international standards within the civilian and penitentiary sector, including development of a national standardized and accredited training curriculum.</p>	<ul style="list-style-type: none"> <li>• The project completely implemented the training plan; 719 participants took part.</li> <li>• Cascade training and mentoring approach is routinely used in all USAID-supported regions.</li> <li>• Training materials on TB and MDR-TB case management developed and approved by the State Service on HIV/AIDS and Other Socially Dangerous Diseases.</li> <li>• Training module on IC in TB microscopy developed.</li> <li>• The project is temporarily hosting the TIRC on its own website and is collaborating with UCDC to develop a new TIRC website.</li> <li>• The project provided support to the revise TB protocols at the national level.</li> </ul>
<p>Implementation of NTP's supervisory and mentoring system to consistently improve the on-the-job quality of care provided by HCWs.</p>	<ul style="list-style-type: none"> <li>• Concept of "mentoring" outlined and promoted.</li> <li>• Project-support mentoring teams conducted field visit to 157 raion level medical facilities.</li> </ul>

LOP Expected Results	Accomplishments to Date
Increased involvement of the PHC system in the provision of TB prevention and treatment.	<ul style="list-style-type: none"> <li>• 295 PHC doctors trained on TB control.</li> <li>• Case detection and outpatient TB treatment in PHC facilities consistently supervised during mentoring visits.</li> <li>• 300 patients consulted and provided with informational materials by the project to improve treatment adherence.</li> <li>• Representatives of PHC in each raion in USAID-supported regions informed about WHO-recommended approaches in TB control and respiratory disease management at project educational events.</li> </ul>
Quality assurance system in laboratories implemented and lab network for TB diagnosis at the national level and in USAID-supported areas improved.	<ul style="list-style-type: none"> <li>• EQA local orders developed in all USAID-supported regions.</li> <li>• EQA system resumed normal function in all 10 USAID-supported regions.</li> <li>• National-level EQA guidelines developed and undergoing legislative approval.</li> </ul>
Strengthened M&E systems and TB surveillance at the national level and in USAID-supported areas; improved quality, use, and analysis of TB data by means of tools for TB and MDR-TB M&E.	<ul style="list-style-type: none"> <li>• Project-led recording of TB-HIV referrals introduced in 10 regions.</li> <li>• STBCU experts participated in series of working group meeting devoted to development of TB-HIV protocol, TB, HIV and M&amp;E country planning.</li> </ul>
Improved knowledge among most at-risk populations and the general community on TB.	<ul style="list-style-type: none"> <li>• Population in USAID-supported regions provided with information on TB during different educational events (libraries, USAID field days, WDTB events).</li> <li>• “Private-public mix” (a WHO term), an innovative approach for Ukraine, created:</li> <li>• Established a collaborative relationship with the Obolon company. Jointly facilitated training on TB control and health-seeking behavior for Obolon employees. Obolon provided products free of charge as incentive for TB patients to adhere to DOTS treatment protocols.</li> </ul>

**Objective 2: Create a safer medical environment at the national level and in USAID-supported areas.**

**Activity 2.1: Improve infection control**

Per Task 2.1.1: improving IC policies, guidelines and operating procedures, strengthening monitoring and supervision, and provision of trainings of health care providers, the project worked in collaboration with a group of national IC experts established in Year 1 to promote implementation of up-to-date IC measures across Ukraine’s network of TB service facilities, through the support of a new NGO on infection control, regulatory advocacy, mentoring visits, and training.

The NGO “Infection control in Ukraine” was established by the Expert Working Group on Infection Control working under by the State Sanitary and Epidemiological Service of Ukraine with technical support of the STbCU. The NGO “Infection control in Ukraine” became a member of the International Federation of Infection Control (IFIC).

The International Federation of Infection Control (UK Charity No 1072681, Company No 02980306), an umbrella organization of societies and associations of healthcare professionals in infection control and related fields worldwide. The goal of IFIC is to minimize the risk of infection within the healthcare setting world-wide through development of a network of infection control organizations for communication, consensus building, education and sharing

expertise. Members of the IFIC are 48 organizations from 40 countries around the world, including the USA. Starting in September 2014, the Expert Group on TB IC of Ukraine's SES became the National Expert Group on Infection Control (NEGIC) under NGO Infection Control in Ukraine.

In Year 2, the infection control expert group significantly contributed to development of the national IC regulations, with project support. They provided recommendations on two to the Law "On ensuring sanitary and epidemic wellness of the population": through revised articles on infection control and Medical waste management, both of which were accepted and incorporated into the law.

For two years, STbCU has been advocating for adopting national regulations to set international standards for safe medical waste management. On August 11, 2014, the MOH of Ukraine issued Order # 552 "On approving the national sanitary regulations and policies "Disinfection, pre-sterilization cleaning and sterilization of medical goods in the healthcare facilities". This Order will help bring medical waste safety requirements to ISO standards.



**Mentoring visit to Kyiv TB facility**

STbCU, together with the IC Expert group drafted additional regulations critical to the improvement of IC practices in health care facilities and presented them for revision to the SES, namely:

- Sanitary norms and policies to organize operation of TB healthcare facilities.
- Sanitary norms and policies to organize operation of TB laboratories in TB healthcare facilities.
- Guidelines on using UV lamps.
- Guidelines on monitoring visits by SES specialists to TB healthcare facilities.
- Check-list for internal TB IC monitoring.
- Unfortunately, the uncertain political situation in Ukraine slowed progress in the endorsement of these documents. The project will continue to advocate adoption of the developed regulations.

In addition, the IC expert group performed six joint field visits together with the staff of local SES departments and provided technical assistance to 31 healthcare facilities (see 2.2.1), and established a training center. The Center started operating in July 2014 and since then hosted two trainings in TB IC for regional multidisciplinary teams (TB specialists, SES specialists, health administration, the healthcare staff of the penitentiary service, AIDS centers) and two trainings for Level II and Level III laboratory specialists and SES staff. Overall, 80 people were trained. This Center is the only facility in Ukraine today that provides training for HCW on different levels on infection control consistent with international recommendations.



**NAGIC expert consults on use of UV-lamps**

Per Task 2.1.2, elaborating a plan for administrative, environmental, and personal infection control measures to prevent and reduce cases of occupational TB and nosocomial transmission, the project continued to support TB facilities to develop and implement TB IC plans. During the year, 49 health care facilities brought infection control activities in conformance with international standards. They developed 31 and updated 18 IC plans on administrative infection control, environmental

control, and personal protection. Each year, TB IC plans are improving in quality and clarity and are being revised one to three times a year. Now health care facilities are more likely to develop IC plans that are specific and realistic for individual facilities. They include such items as: clear TB risk zone identification in the facility; detailed calculations for respirators and UV-lamps and related requests for additional funding to Oblast Health Administration; and development of standard operating procedures for different hazard accidents in healthcare facilities. For example, the communal healthcare facility “Ftiziatria” implemented all items of the 2014 IC plan developed in January 2014 and in May updated their IC plan to add new activities. This TB facility also included topics on TB IC into interview questions for getting a national license to practice medicine

To encourage positive attitudes toward TB IC and necessary behavior changes among HCW, the project continued to disseminate handouts on appropriate TB IC measures (see 1.1.6) during visits to TB facilities. These materials were also uploaded to the project’s website and the TB IC Facebook page.

To help encourage proper respiratory protection, the project procured 11,000 FFP2 respirators and developed a plan for distributing them to TB facilities, AIDS centers, SES, penitentiary medical services, and the Ukrainian Red Cross Society.



**Health specialists train wear respirators correctly**

Per Task 2.1.3, the project is providing ongoing support to TB IC management teams. Infection control is now more frequently being discussed at oblast council and oblast coordination board meetings, thus decision makers are more aware of the need to implement TB IC measures. However, funding TB IC remains a challenge, since there is no current state funding allocated for TB IC. Implementation of TB IC activities largely depends on the political will at the national, regional, and local levels. In order to improve motivation for implementation of IC activities among chief physicians of TB facilities, the project is working with UCDC to develop an IC

concept and IC road map. One of the planned mechanisms is to include IC as one of the obliged issues for health practice licensing. Both documents are scheduled to be submitted for approval by the MoH in 2015.

### **Activity 2.2: Increase the capacity of oblast Sanitary and Epidemiological Services (SES) to implement, monitor, and evaluate infection control (IC) interventions**

The Sanitary and Epidemiological Service (SES) of Ukraine began a restructuring process before the change in government in February 2014 precipitated by the “EuroMaidan” movement which began at the end of November 2013. Under the Regulation of the Cabinet of Ministers of Ukraine #442 as of 14 September 2014 on reorganization of central executive bodies, the State Sanitary and Epidemiological Service of Ukraine was dismissed and became a part of State Service of Food Safety and Consumer Protection.

Despite these organizational changes, the project in cooperation with the IC Experts group, who had been supporting the SES capacity building efforts, conducted six monitoring visits to project-supported regions. The group now utilizes a standard check-list in order to compare the performance of different facilities and analyze any progress that has been made. Each visit is a comprehensive 5-day assessment of all infection control components including the following:

- Current state of implementation of the Standard on TB infection control in health care settings (Ministry of Health of Ukraine’s order dated 18.08.2010 № 684).
- Designation of medical personnel responsible for implementation of TB infection control measures.
- Availability of the TB Infection control plan in health care facilities and its successful implementation.
- Organization of sputum collection points (including location, schedule, and availability of trained staff).
- Zoning of health facilities, depending on the risk of TB infection.
- Availability of laboratory tests for TB.
- Incidence of TB among health care workers.
- Knowledge of health care workers about procedures of TB diagnosis, treatment and prevention in terms of effective implementation of infection control measures.
- Implementation of measures of administrative infection control, environmental infection control, and personal protection of employees.
- Education of patients on TB infection control basics and cough hygiene.

At the final of each monitoring visit, the team meets with representatives of the local SES and management of the assessed facilities to discuss findings and to jointly work out a plan of action. After the visit the monitoring team thoroughly analyzes results of each monitoring visit, develops concrete recommendations on each IC component and prepares a detailed report to the Head of the SES, who then authorizes the reports and forwards on to address any required actions to the Head of Oblast State Administration and The Head of Oblast Rada. To avoid punitive pressure by the oblast administration on TB facilities, the monitoring team only included areas for improvement and not detailed findings or shortcomings.

To support local SES with implementation of the mentoring visits, the project developed a monitoring and supervision tool, including check lists, and guidelines for SES specialists on TB IC monitoring in health care facilities. This tool helped the specialists of the State sanitary

and epidemiological service facilitating quality mentoring visits to healthcare facilities providing TB care. To support multi-sectorial approach to mentoring visits the project conducted trainings on TB IC for multi-sectorial teams which included representatives of oblast healthcare departments, SES, oblast TB facility, oblast AIDS Center and penitentiary services. After this training, regional multidisciplinary team developed TB IC plan and reported on its implementation to UCDC. As a result, the SES staff started practicing multi-sectorial approach in TB IC implementation.

The project planned to conduct training on TB IC for national and regional experts in the international training center in the city of Vladimir, Russia. The training was not conducted due to the current military conflict in eastern Ukraine. In Year 3, the project plans to conduct TB IC training at the National Center for Disease Control, in Tbilisi, Georgia

**Exhibit 5: Objective 2 Accomplishments**

LOP Expected Results	Y2 Milestones
<ul style="list-style-type: none"> <li>• Improved national and regional policies, guidelines and plans for implementation of IC measures according to international standards in all civilian and penitentiary facilities diagnosing and treating people with TB.</li> <li>• Developed and operationalized infection control (IC) plans for all facilities mentioned above in a phased approach.</li> <li>• All three types of IC measures (administrative, environmental and personal respiratory protection) as well as bio-safety measures in facilities diagnosing and treating people with TB.</li> <li>• An integrated, modern IC management system in all TB hospitals and TB laboratories according to international standards. IC measures include improving practices, systems, and structures to reduce healthcare-acquired infections are in place in all 10 regions</li> <li>• Improve the capacity of SES to provide quality supervision and monitoring of IPC standards at the facility level in a collaborative manner. and</li> <li>• Improve the systems for evaluation of key indicators of the performance of the IPC measures at the facility level</li> </ul>	<ul style="list-style-type: none"> <li>• Draft amendments to the Law “On ensuring sanitary and epidemic safety of the population” endorsed to introduce up-to-date approaches on TB surveillance and bring it in compliance with the Stop TB strategy.</li> <li>• MOH adopted an order # 552 “On approving the national sanitary regulations and policies “Disinfection, pre-sterilization cleaning and sterilization of medical goods in the healthcare facilities”.</li> <li>• Enhanced state sanitary rules and regulations for TB facilities developed and presented to SES for approval.</li> <li>• 31 infection control plans developed and operationalized by TB facilities; 18 infection control plans updated.</li> <li>• Guidance on UV-radiators application in the framework of environmental IC measures developed and applied by TB facilities.</li> <li>• A training center of infection control is operation and providing training in line with international recommendations.</li> <li>• An informational letter on planning and implementation of SES's mentoring visits to health care facilities that provide care to patients with tuberculosis was approved by State SES.</li> <li>• Guidelines on improvement of infection control practices at health care facilities developed and adopted by SES.</li> <li>• Recommendations to 6 TB facilities provided in a collaborative manner as a result of quality supervision and monitoring visits.</li> </ul>

**Objective 3: Build capacity to implement PMDT Programs for Multidrug-Resistant/Extensively Drug-Resistant TB (MDR/XDR-TB) at the national level and in USAID-supported areas.**

**Activity 3.1: Provide training, supervision, and mentoring on MDR-TB case management based on WHO guidelines**

Task 3.1.1, to strengthen TB Center of Excellence (CoE) in Year 2 project staff provided technical support to improve TB and MDR-TB case management. In particular, supported the technical enhancement of MDR-TB medical council board meetings, took part in case consideration, decision making/approval of final conclusions/confirmation of MDR-TB diagnosis and administration of treatment regimens, including second-line drugs in line with international standards.

With the project support, the CoE created an electronic database of MDR-TB cases and used it for case registration and assessment of the quality of MDR-TB patients' management. This database allows analyzing the accuracy of prescribed treatment regimens based on DST results, conducting timely monitoring of treatment, and providing data for MDR-TB council board meetings. Hard copies of medical documentation, radiological and computer tomography images are also collected for educational needs.

To optimize the work of central medical council (CMC) and improve the quality of diagnosis and treatment of TB patients, the CoE trainers conducted monitoring visits to CMC branches in Dnipropetrovsk oblast. A total of six visits were carried out.

After the visits, the project and CoE specialists developed recommendations and presented them to CMC members. Among the main recommendations were: to immediately register new TB cases in TB 03 log book during CMC meetings; to provide TB medical records only to physicians who treat a patient; to develop a referral form to CMC; to always adjust TB drugs dosages based on patient's weight; and to considered complicated cases only during the CMC of the communal healthcare facility "Ftiziatria".

In order to improve TB diagnosis verification, timely registration of new TB cases and optimize follow-up of TB patients CoE with support of the project specialists developed and operationalized the following local regulations:

- Local protocols on case management for different clinical types of TB, surgical treatment, extra-pulmonary TB (genital TB, ocular TB, bones and joints TB, pleural effusion, and TB of the lymphatic system).
- Clinical routes for newly detected patients, patients with relapse, and MDR-TB patients.
- Route of biological material and MTB culture for diagnostics and monitoring of TB treatment in Dnipropetrovsk oblast.
- Following the project's recommendations, the communal healthcare facility "Ftiziatria" started regularly monitoring the quality of TB and MDR-TB care provided in the facility in the following directions: "Diagnosis and treatment in the hospital", "Infection Control", "Laboratory diagnosis". The facility developed an action plan on improvement of the clinical base and regularly controlled its implementation.

This resulted in:

- Improved IC measures (separation of risk zones in the facility, increased control over triage, organized meals for patients in their wards, transfer of patients to the department according to the patient category within 8 hours upon receipt of DST results and smear conversion),
- Improved treatment (improved performance on indicator “compliance with standards of care for TB patients” - 96%, decreased term of TB treatment onset to 3 days, 100% of TB cases are considered at CMC meetings, and MDR-TB cases – at Oblast MDR-TB council, second line drugs are administered only by decision of CMC and Oblast MDR-TB council)
- Improved laboratory diagnosis (reduced time of delivery of DST results, test results are delivered on the same day via Internet to oblast administrative territories, increased control over obtaining of DST results in MDR-TB patients).

The CoE continued implementation of rapid diagnostic tests for detecting multidrug-resistant tuberculosis, i.e. Xpert MTB/RIF as well as performing DST to second-line TB drugs on BACTEC.

CoE with the project assistance created and maintains a database of clinical cases. By the end of the reporting period, 31 medical histories were selected to the database (clinical forms of pulmonary TB, extra-pulmonary TB, pneumonia, cancer, COPD, echinococcosis, TB/HIV). These cases are used during trainings, workshops, and conferences.



**Participants of training on MDR TB conducted at the Dnipropetrovsk Center of Excellence in July 2014**

In Year 2, project staff joined forces with the CoE to continue mentoring visits, as part of cascade training approach for health professionals in Dnipropetrovsk oblast. Mentoring teams conducted 24 visits across Dnipropetrovsk oblast, during which over 350 HCW received mentoring assistance regarding TB detection and diagnosis of TB at PHC level, laboratory diagnostics, organizing directly observed treatment (DOT), TB/HIV co-infection, and infection control.

Per Task 3.1.2, advocating for policy changes during the reporting period, the project continued to participate in regional central medical councils (CMC) and MDR-councils, analyze their operation and advocate for the implementation of PMDT based on WHO guidelines. Special attention was paid to the new local CMCs organized in Dnipropetrovsk oblast at the project’s initiative in 2013 to relieve the workload of the oblast medical council.

During the reporting year the project facilitated mentoring visits to Dnipropetrovsk raions with the newly organized CMCs, analyzed their functioning and quality of decisions and compliance with the National TB Protocol. The mentoring team consisting of project and

CoE specialists visited Pavlohrad, Nikopil', Dniprodzerzhynsk, Kryvyi Rih, and Dnipropetrovsk city TB dispensaries.

In September 2014, the project organized a round table for heads and members of the newly organized CMCs and CoE and analyzed results of their work based on the outcomes of the mentoring visits, discussed existing challenges and proposals related to quality improvement of medical services for TB patients, improvement of the TB patients register maintenance, quality of data analyses, and application.

The project also consistently assisted in streamlining MDR council operations in USAID-supported oblasts. The project developed essential criteria for assessing the effectiveness of MDR councils. According to these criteria the work of MDR Council complies with the national and international standards when in place are:

- Proper registration and timely treatment provision (not later than seven days after obtaining DST results).
- Compliance of treatment regimens with the national and international protocols.
- Availability of a three months local stock-out of second- line drugs for each MDR patient.
- Proper treatment monitoring.

Taking into consideration the above mentioned criteria, the work of the Donetsk, Odesa and Zaporizhzhia oblast TB dispensary is in better compliance with national and international recommendations.

The project facilitated the improvement of communications between TB facilities with the use of IT technologies. Thus, the Odesa TB dispensary has been conducting online MDR Councils with other oblast TB facilities since October 2013; Zaporizhzhia oblast is now practicing central medical councils Skype conferences with Berdiansk and Melitopol city TB facilities; and Dnipropetrovsk TB Dispensary conducted its first on-line TB MDR Council with Kryvyi Rih TB Dispensary.

Following the visits to the newly organized CMCs and MDR Councils, the project analyzed their role and effectiveness in quality of TB and MDR-TB service provision in oblasts and developed recommendations for their improvement. The recommendations were discussed with the heads of TB oblasts service and members of the councils at the regional level. At the national level, recommendations were presented during meetings of the Working Group on revision of the Unified Clinical TB Protocol to align national laws and regulations with international standards. This information is reflected in the annexes to the protocol, which describes organization of CMC functioning and regulation of CMC and MDR Councils. The project TB specialist also conducted mentoring visits to MDR departments in Zaporizhzhia, Kharkiv and Kherson oblasts, and provided recommendations to help with improving the departments operations, which were well received.

Per Task 3.1.3, supporting quality TB and MDR-TB case diagnostics and treatment, the project convened a group of leading national experts in November 2013. During the initial meeting the participants agreed that members of expert panel will cooperate with the project and will participate in regular meetings of the MDR Councils, support local staff to analyze MDR-TB case management, participate in online Q&A forums on the newly endorsed National Protocol on TB case management, and provide technical assistance to the ongoing mentoring campaign. Following the agreement, some leading national TB specialists

participated in meetings of the MDR Council in Kyiv and Sevastopol cities, Donetsk and Kharkiv oblasts, and AR Crimea during the first four months of the reporting year. The new national expert panel, under the leadership of UCDC, will provide consultative assistance to regional MDR Councils, including distance consultation.

The inter-regional seminar to exchange experience and best practices in MDR-TB diagnosis and treatment (including quality assurance of TB culture and DST) originally planned for the third quarter was canceled given that the update on the Unified National TB Protocol scheduled for March of 2014 happened only in September.

Instead, the project organized a two-day national seminar for heads of third level laboratories of civilian and penitentiary sectors in June. This seminar analyzed the issues on quality of laboratory TB diagnosis including intermediate EQA DST results, conducted in the DST framework. The participants focused on issues of MDR-TB case detection by liquid culture tests and Xpert MTB/RIF technique and discrepancies between results of different tests. They also discussed the problem of poor clinical management of laboratory tests results, and ways to improve cooperation between physicians and laboratories.

From September 25-26, 2014, STbCU, in partnership with the UCDC and the State Service conducted a national workshop on the reform of TB services provision, including the best practice of TB outpatient treatment and patient-oriented approaches in Ukraine. Meeting participants developed a list of reform recommendations that can foster improvement of TB services in Ukraine. All presentations as well as recommendations are posted on UCDC's and the project's web site.



**National workshop on reform of TB services provision, September 25-26, 2014**

Per Task 3.1.4, collaborating on second-line drug management, the project participated in a meeting of the MoH on drugs, medical commodities, and other equipment to be procured as part of the NTP. As of September 2014, the MoH still had not finalized tenders on drug procurements. Thus, the project advocated for improved second-line drug management during MDR councils and the availability of a three-month local supply of second-line drugs for each MDR patient.

Task 3.1.5, support mentoring and supervision of MDR-TB case management, including EQA of culture and DST laboratory network. In order to ensure EQA of culture tests, DST, nuclear acid amplification (NAA) techniques, the project continues to conduct monitoring visits to the TB regional laboratory network. During the reporting period, the project conducted 27 monitoring visits to second- and third-level laboratories in seven regions.

During these visits, project specialists assessed the quality of laboratory diagnostics, including the pre-analytical stage and issues pertaining to the reorganization of the TB laboratory network in accordance with the national plan for optimizing TB service activities. Special attention was given to those laboratories which during previous mentoring visits,

have encountered some problems related to the WHO's drug resistance survey (DRS), or DST cross-checking at the national reference library (NRL) with regional laboratories.

As a result of these visits, the project observed an overall positive trend in the organization of TB bacteriological diagnostics in USAID-supported regions, in particular, there was evidence of:

- Accurate fulfillment of all requirements related to performance of TB bacteriological tests;
- Reduction of errors in identification of MTB, performance of DST, and obtaining DST results on BACTEC;
- Completeness and accuracy of internal quality assurance procedures of TB cultures;
- Compliance with laboratory algorithms based on regulations on TB diagnostics;
- Completeness and correctness of filing out reporting and recording documents;
- Improvement of cooperation between laboratory and clinical services; and
- Decrease in the number of poor quality biological material sent to second- and third-level laboratories



**Head of MOH Central Reference Laboratory Anna Barhwa supervises a laboratory specialist**

Based on national EQA regulations for laboratory tests, the laboratory specialists developed local guidelines on requirements related to the quality of biological material and the algorithm of actions in case of receipt of poor quality biological material; these documents were disseminated to sputum collection points and clinicians who refer patients to undergo testing.

The results of such visits were submitted to the Head of NRL to analyze the quality of performed TB tests. All findings from mentoring visits were taken into account while evaluating EQA results and planning subsequent support visits.

In June 2014, the project and UCDC organized a two-day national seminar for heads of third-level laboratories of civil and penitentiary sectors of Ukraine. The participants discussed the quality of TB laboratory diagnostics, including interim results of EQA of DST conducted within the framework of DRS.

During the reporting period, the representatives of higher-level laboratories continued to perform EQA of culture and DST through on-the-job mentoring visits (according to national regulations) in 12 out of 14 third-level laboratories operating under the MOH Order. The NRL representatives conducted visits to eight laboratories, while during the previous reporting period a monitoring group of national and international experts, including Ģirts Šķenders, Head of the Supranational Reference Laboratory, Riga, Latvia and Marija Jonecvska, Project HOPE Regional Laboratory Adviser for Europe and Eurasia participated

in mentoring visits to four third-level laboratories in Kyiv, Kharkiv, Donetsk, and Shakhtarsk as part of the DRS.

This past year, EQA of culture tests and DST was performed through “blind” cross-checking of MTB cultures during the DRS. The project carefully studied, and afterwards recommended this technique as a result of piloting the DRS and, in order to perform EQA, the project procured all necessary laboratory supplies for third-level laboratories in all regions of Ukraine).

In August-September 2014, NRL provided third-level laboratories panels of MTB cultures as part of EQA of culture tests and DST by panel testing. The laboratories are now tasked with correctly identifying sensitivity of strains of Mycobacterium tuberculosis. The laboratories will perform such controls for three months based on the panel testing procedure; afterwards the results will be analyzed by the NRL.

The EQA of culture tests and DST in third-level laboratories in the project-supported regions were analyzed by the Head of NRL based on the results of on-the-job mentoring visits: 12 out of 14 third-level laboratories designated by the MOH Order performing culture tests and DST in the project-supported regions operate in line with EQA procedures. 85.7 percent of third-level laboratories designated by Ukraine’s MOH perform culture tests and DST in line with EQA procedures.

**Exhibit 6: Objective 3 Accomplishments**

LOP Expected Results	Y2 Milestones
<ul style="list-style-type: none"> <li>• Improved policy and legal environment for implementation of PMDT according to international standards</li> <li>• Developed national guidelines for MDR-TB, consistent with international standards</li> <li>• Develop a group of national experts to provide MDR-TB expertise</li> <li>• Develop an external quality assurance network for culture and DST with a supra-national reference lab</li> <li>• Improve adherence to treatment through a social support system</li> <li>• Improve case management of MDR-TB patients</li> </ul>	<ul style="list-style-type: none"> <li>• The projects’ recommendations on organization of CMCs functioning and regulation on CMC and MDR Councils are included into the adopted Unified clinical TB Protocol.</li> <li>• CoE created a database of MDR-TB cases and used it for case registration and assessment of the quality of MDR-TB patients’ management.</li> <li>• CoE developed and operationalized local regulations on local protocols on case management for different clinical types of TB, clinical routes for newly detected patients, patients with relapse and MDR-TB, and route of biological material and MTB culture for diagnostics and monitoring of TB treatment in Dnipropetrovsk oblast. Successful models of cooperation between the primary health care system, AIDS centers, and other specialized medical care systems with DOTS-based service provision developed in Kryvyi Rih and presented to all supported regions</li> <li>• Recommendations on operational enhancement of central medical councils and MDR-TB conciliums were implemented</li> <li>• Order on Laboratory Quality Assurance was finalized and is currently under legislation</li> <li>• As a result of mentoring and monitoring visits improved TB bacteriological diagnostics exist in the project-supported regions</li> <li>• Results and current status of EQA of culture tests and DST in third-level laboratories in project-supported regions were analyzed by the Head of NRL based on the results of on-the-job mentoring visits: 12 out of 14</li> </ul>

LOP Expected Results	Y2 Milestones
	third-level laboratories designated by the MOH Order performing culture tests and DST in the project-supported regions operate in line with EQA procedures

**Objective 4: Improve access to TB/HIV co-infection services at the national level and in USAID-supported areas.**

**Activity 4.1: Identify gaps in TB/HIV co-infection services and build capacity to address them**

Task 4.1.1. Undertake a gap analysis in TB/HIV co-infection services. This activity was completed in Year 1.

Per Task 4.1.2, to identify gaps in TB/HIV co-infection services and build capacity to address them, the project focused on implementing recommendations of the gap analysis conducted in 2013 with the assistance of the Global Tuberculosis Institute at Rutgers, the State University of New Jersey (GTBI). The project presented results and the final findings of this analysis to the State Service and UCDC, as well as shared it with other TB/HIV partners at two national meetings: "Implementation of the National Program for Combating TB, 2012-2016" in April 2014 and "Perspectives for TB services reform" in September 2014. The project also shared the analysis at working meetings during mentoring visits to all USAID-supported regions.

The project, using the results of the above analysis, worked with UCDC to develop the "Action Plan for capacity building and improvement of TB/HIV co-infection services to address gaps in TB/HIV referral system and integrated services." This plan was discussed with the national professionals from UCDC in September 2014, supported by UCDC and recommended for implementation. The project will start implementation of the action plan in the project oblasts in Year 3. The project will help each USAID-supported region to adopt the Action Plan according to the local needs and to start execution.

During the reporting year, project specialists initiated and participated in four meetings of the National Working Group on TB/HIV and discussed the draft of the "National clinical protocol for case management of TB/HIV." The project provided the following recommendations to the draft TB/HIV Protocol:

- Proposed an algorithm for TB testing for PLWH using the Xpert MTB/RIF method for centers for the prevention and control of AIDS.
- Simplified algorithm for managing seriously ill patients with HIV infection and suspected tuberculosis.
- Including IPT for PLWHA.
- Initiating removal of directives contradicting DOTS therapy for TB patients.
- Deleting tuberculin diagnostics from the diagnostic algorithm of active and latent tuberculosis.
- Including TB screening coverage and PLWH isoniazid prophylaxis.

Currently the "National clinical protocol for case management of TB / HIV" is still under revision by a national working group under State Service as national level experts are

bringing it in accordance with the " Unified Clinical Protocol on Tuberculosis ", the updated version of which was approved only in September 2014.

The project initiated and participated in four meetings of the national working group on M&E for TB and HIV. The project's specialists provided recommendations on TB/HIV indicators to be included to the nation M&E Plan on TB/HIV and developed performance indicator reference sheets for key indicators. The national M&E Plan on TB/HIV is currently under revision by the national working group under the State Services.

During the reporting period the TB/HIV project specialist conducted a series of mentoring visits to regional TB facilities in all project oblasts to support local specialists to improve data entry for TB/HIV in e-TB Manager. The project analyzed the main reasons for missing data in the registry and helped local specialists to understand the need and importance of entering data about HIV. As a result, regional and district TB specialists have started improving data entry before and after HIV testing counseling of TB patients, data on co-trimoxazole prophylaxis, results of HIV tests received from AIDS Centers, data on assignment of ARV treatment, and improved cooperation on data flow on TB/HIV patients among medical facilities. In the Kherson region, after project recommendations, the local TB administration developed an algorithm of TB patients register management, including information on TB/HIV and the management of TB Form 01-1.

During mentoring visits, the project TB/HIV specialist demonstrated how to use e-TB Manager for data analysis and evaluation to local medical professionals. Now regional specialists can export data and get a list of patients with TB who received VCT, ART and easily count them, taking into account gender. The project collected suggestions from regions on improving the system and submitted them to the national level and SIAPS project. Next year, the project plans to conduct an assessment of changes in quality of TB/HIV data entered into e-TB Manager in pilot regions after Year 2's mentoring visits.

During the reporting period, the TB/HIV project specialist conducted 15 mentoring visits to all pilot regions, visiting a total of 34 health facilities, including regional TB facilities and AIDS centers. She provided technical support in the form of on-the-job training on effective referral mechanisms and integrated TB/HIV services to 150 health workers (126 women, 24 men). As a result of project advocacy, Odesa oblast health department by a regional order, established a joint TB and HIV/AIDS mentoring team. Work of the joint mentoring team improved cooperation between TB and HIV facilities and supported more effective management of patients with TB/HIV. Zaporizhzhia and Dnipropetrovsk regions also started joint mentoring visits and are preparing relevant regulations to sustain this initiative.

During Year 2, the project supported the revision of regional regulations to streamline TB/HIV policies and guidelines to improve cooperation between TB and HIV services and referrals. The following local orders were developed:

- Kyiv city AIDS center introduced a procedure for monitoring TB/HIV co-infection among people living with HIV and approved a registration form "Monitoring of TB/HIV" for patient medical cards (files);
- Donetsk Oblast Health Department adopted a "Comprehensive Plan on HIV/AIDS" reporting table on TB/HIV data;
- Luhansk Oblast AIDS center established a commission on infection control;

- Zaporizhzhia Oblast Health Department developed an order aimed to improve interaction between health care facilities providing care to TB/HIV patients. This order approved a new composition of TB/HIV consultation, algorithm of cooperation, and a protocol for mortality analysis of TB/HIV patients;
- Zaporizhzhia AIDS center approved a procedure for preventive radiological examinations of PLWH;
- Zaporizhzhia oblast TB Dispensary approved a “consultation” cabinet in which patients will be consulted and receive information on TB/HIV co-infection;
- Melitopol TB dispensary approved a new staff post of infectious diseases specialist;
- Kherson Oblast Health Department established an algorithm for management of a TB patient registry to improve the quality of data entry, including TB/HIV;
- Kharkiv Oblast Health Department approved an order that obliged the TB dispensary to prescribe ART treatment and conduct laboratory examination of patients with TB/HIV; and
- Odessa Oblast Health Department created three regional regulations aimed at improving TB screening among PLWH, HIV testing of TB patients, and referring of patients with TB/HIV.

Thus, the project contributed to institutionalization and sustaining positive changes in organization of TB/HIV services in supported oblasts.

For Task 4.1.3., assure TB training for HIV service providers and training in HIV diagnosis, treatment and prevention for TB providers, STbCU decided not to develop training materials for diagnosis, treatment and prevention of TB/HIV in order to avoid duplication with other donor efforts. Instead, the project conducted four trainings on counseling and testing for HIV requested by TB specialists in the regions and on effective referral practices. Now, 109 health professionals of TB facilities are applying new knowledge and practices received on the trainings in day-to-day work. The project also supported the development of guidelines on co-infection TB/HIV for medical students of the National Medical University (see. 1.1.1).

The project conducted two trainings on adherence to TB/HIV, effective referral and counseling patients with TB/ HIV for 40 NGOs and two on-the-job training sessions for 38 TB doctors and infectious disease from Zaporizhzhia and Dnipropetrovsk oblasts on diagnostic, treatment, and prevention of co-infection TB/HIV.

#### **Activity 4.2: Ensure HIV testing for TB patients and effective referral of those found to be HIV positive**

Task 4.2.1., Scale-up quality HIV testing and referral models for co-infected patients at TB clinics, the project turned to training needs of the penitentiary system. As part of the tender for the activity "Improving Access to Services for co-infection TB/HIV in penitentiary institutions" Kharkiv-based NGO "Parus" was selected in August 2014. During this period, the project TB/HIV specialist also provided support and supervision on voluntary testing and counseling (VTC) to TB clinics through a number of training activities.

The project TB/HIV specialist trained PITC-responsible staff in TB clinics on the use of new reporting forms for testing and counseling to improve the efficiency and timeliness of detection of dual infection. Now staff in the regions report using the new R&R forms.

In June 2014 the project held a working meeting for TB specialists "Features in the approach to TB/HIV" in Odesa. Participants of the meeting discussed results of an assessment of ART coverage, effectiveness of early use of ART in patients with TB/HIV, VCT coverage of patients with TB, and quality of medical records maintenance. Additionally, the meeting focused on elements of infection control for TB specialists.

In August, the project conducted an inter-regional seminar for 34 attendees on improving access to and quality of counseling and testing for HIV and counseling for TB/HIV for PITC-responsible staff in the pilot regions. During the meeting, the participants exchanged experiences, demonstrated their success, and discussed the draft National Protocol on counseling and testing for HIV.

In Year 3, the project is planning on conducting a series of mentoring visits to Kherson, Zaporizhzhia, and Dnipropetrovsk oblasts and after the visits to organize meetings with participation of Heads of the regional Coordination Councils on Socially Dangerous Diseases, health administration, and health professionals to discuss results of the visits and advocate for improvements.

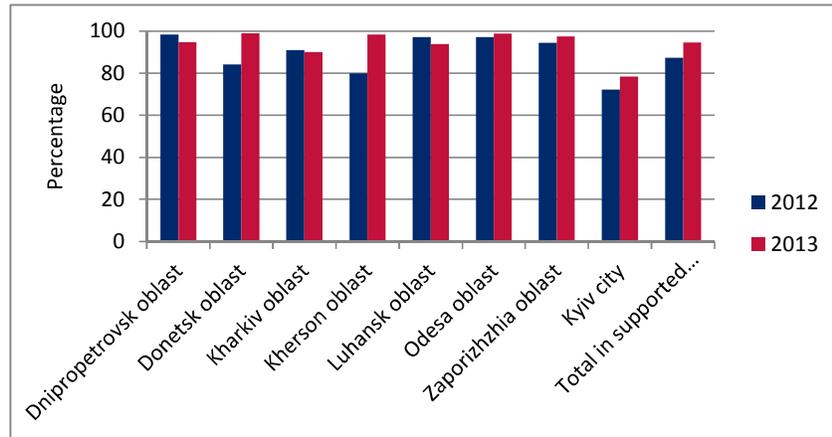
Following the project recommendations on integration of TB/HIV services and bringing them closer to patients, a psychologist in the Odesa oblast TB dispensary began counseling not only on HIV, but also on dual TB/HIV co-infection for all TB patients on the in-patient phase of treatment. In October 2013 doctors of the outpatient department began using rapid tests for HIV testing and opened a second cabinet for counseling on co-infection and HIV testing for TB patients undergoing outpatient treatment. Following project recommendations, in-patient TB departments started maintaining logs for tracking ELISA, information about registration in AIDS Center, prescription of ART, and results of HIV tests to monitor examination and treatment of patients with TB/HIV.

**ART Coverage Growing, Outcomes Improving**

In Odesa oblast ART coverage of TB/HIV in 2013 increased by 41% compared to 2012. Increased coverage and improved earlier ART administration to TB/HIV patient, mortality among TB/HIV patients decreased by 8% in 2013 compared with 2012. In Dnipropetrovsk oblast, ART coverage of TB/HIV in 2013 increased by 5% compared with 2012. Mortality of patients with TB/HIV activities in 2013 decreased by 6% compared with 2012.

As a result of these ongoing advocacy activities, coverage of TB patients with counseling and testing for HIV increased in 2013 to 95 percent compared with 74 percent in 2012.

**Exhibit 7: HIV Counseling and Testing for TB Patients, 2012 vs. 2013**



**Activity 4.3. Provide TB screening of HIV patients and referral to TB services for those with suspected cases of TB**

Task 4.3.1. Build on existing models to scale up TB screening and referral for HIV patients.

The project developed a poster appealing to PLWH to inform their doctor about the presence of any TB symptoms. The project initiated posting these posters next to infectious disease specialists’ offices after commemoration of the World AIDS Day in the pilot regions.

The Kharkiv oblast charity fund “Parus” within the framework of its activity aimed at “Improving access to TB/HIV co-infection services in penitentiary service sites” conducted two trainings for healthcare providers in medical units of penitentiary institutions on TB screening among HIV-infected prisoners (see 4.2.1).



**Kharkiv oblast charity fund “Parus” held awareness session for prisoners**

In order to improve access to information on the risk of TB/HIV co-infection in PLWH in pilot clinical sites of the penitentiary system, Parus conducted 13 interactive awareness sessions for 295 prisoners on the following topics: “Prevention, early detection and treatment of TB among HIV-infected individuals”, and “HIV/TB co-infection management.”

Parus also conducted a training of client-leaders on early TB detection and compliance with treatment regimens for volunteers was conducted in Penal Colony #17. Clinical TB screening questionnaires among prisoners with HIV commenced in clinical sites of penal colonies and pre-trial detention centers. To date, healthcare providers in medical units of penitentiary institutions have surveyed 60 PLWH.

The staff of the NGO also provided patient support to TB/HIV patients recently released from Penal Colony #17. This improves the likelihood that patients will reach appropriate healthcare facilities in the civil sector to continue their treatment.

Patient support activities include:

- Preparation for release;
- Communication with oblast/raion TB specialists working in TB dispensaries, HIV specialists of AIDS Centers on continuation of treatment or follow up care of the clients in their town of residence; and
- Contacting the management of NGOs and healthcare facilities of Kharkiv and other oblasts.

Five clients released from penal Colony #17 received social support services. During release, all clients received medical certificates with referral to relevant civic healthcare facilities. The project is currently communicating with TB facilities in Kharkiv, Khmelnytsky, and Kyiv oblasts regarding the possibility to officially confirm continuation of treatment of ex-prisoners. The project is also working with the regional offices of the All-Ukrainian Network of PLWH regarding referral of HIV clients, so that individuals with HIV receive social support services, follow up, and treatment.

Per Task 4.3.2, the project supports screening of HIV patients for TB and referral to TB services. During the reporting period, the project held eight meetings with 307 infectious diseases specialists from AIDS centers and raions and helped participants better understand the need for using screening questionnaires to identify clinical symptoms of TB among PLWH, monitor referral of patients for diagnostics and treatment of TB, and improve interaction between TB and HIV institutions.



**HIV positive client completes screening questionnaire**

In August 2014, the project conducted an inter-regional working meeting on quality of sputum collection with elements of infection control. As a result, 24 medical professionals of AIDS center improved their knowledge and practices on laboratory diagnosis of TB.

As a result of the project's training and mentoring efforts, infectious disease specialists of AIDS centers in all USAID supported oblasts are now applying internationally recommended practices: earlier diagnosis of TB in HIV-positive cases, screening interviews on symptoms of possible TB among PLWH as well as a detailed interviews while conducting clinical examinations of HIV positive patients, and prescribing ART as soon as possible (up to two months from the beginning of TB treatment).

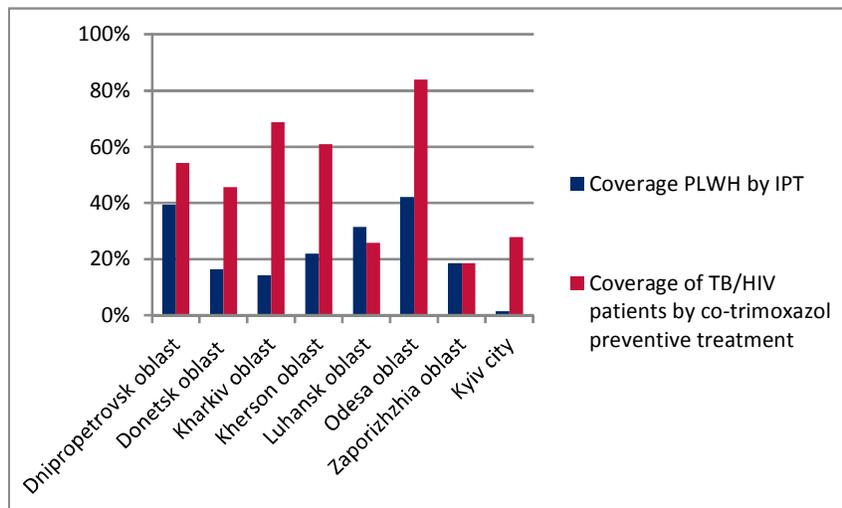
The Dnipropetrovsk city AIDS center and TB facilities, with project support, developed an effective practice of information exchange on TB patient's diagnoses and recommendations

between the TB doctors and infectious disease specialists. To perform the project’s recommended standard infection control practices, Dnipropetrovsk city AIDS center introduced a single day for TB/HIV patient visits. Since May 2014, the Center included in its staffing a TB specialist; allocating them a special room with a separate entrance and ultraviolet lamp to limit infection.

The project continued supporting the TB/HIV and referral monitoring database for AIDS centers and raion-level HIV offices initiated in Year 1. Management of TB prevention, detection and treatment, yielded a significant improvement since 2013. In the first nine months of 2014, local specialists entered data on 29,836 PLWH from eight USAID-supported regions. Almost all (97 percent of patients under observation) underwent screening interviews on possible TB symptoms, and 25 percent were found to have cough and referred to sputum test. The results of sputum TB detection among PLWH are constant during the last year and comprise 6 percent. This confirms the effectiveness of patient selection for specific TB examination based on the screening interview. The percentage of presumptive TB cases with positive smear microscopy results among this risk group significantly exceeds the overall level of TB cases detected by microscopy at PHC level by 1-3 percent.

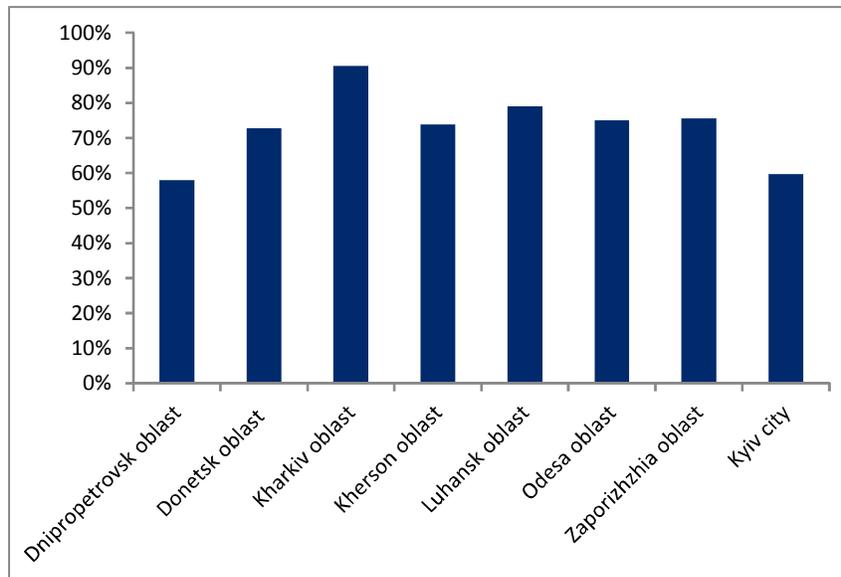
Prevention of TB and other opportunistic infections became more active in the USAID-supported regions. Coverage of newly detected PLWH by IPT has increased from 22 percent in September 2013 to 27 percent in September 2014. Coverage of TB/HIV patients by co-trimoxazol preventive treatment has increased even more significantly, from 24 percent in 2013 to 37 percent in 2014. At the same time, significant differences throughout the regions were discovered (Exhibit 8). For instance, in Odesa 42 percent of PLWH received IPT, and 84 percent of patients with co-infection received co-trimoxazol preventive course, these results significantly exceed the average data. In contrast, in the city of Kyiv the application of both interventions is poor with 1 percent of IPT and 28 percent of co-trimoxazol prevention (Exhibit 8).

**Exhibit 8: Coverage of PLWH by Preventive Interventions**



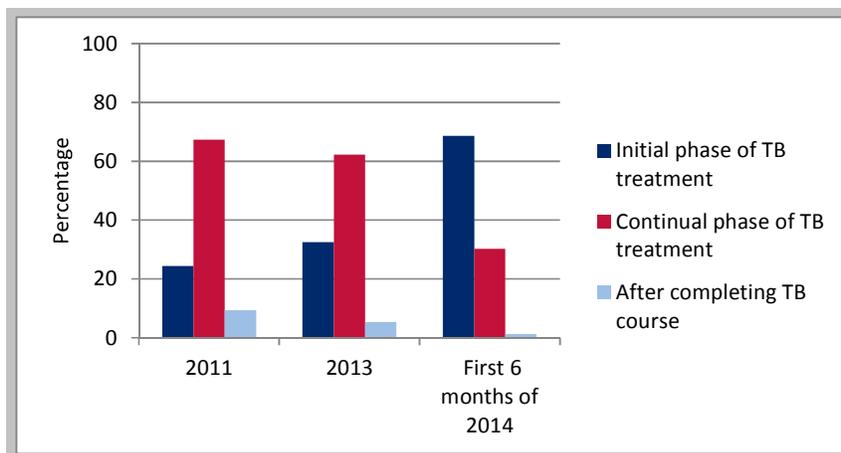
During the reporting period 69.1 percent of patients with TB/HIV received ART (variation between 60 percent in the city of Kyiv and 91 percent in Kharkiv oblast, Exhibit 9).

**Exhibit 9: ART Coverage of TB/HIV Patients**



In 85.8 percent of ART cases, the antiretroviral regimens have been prescribed within first two months of TB treatment, according to WHO-recommendations. In particular, the project observed significant progress in Odesa oblast, where the window between the receipt of HIV test results and administration of ART was reduced from an average of 47 days to an average of 33 days. ART administration in the initial phase of TB treatment increased from 32.5 percent in 2013 to 68.6 percent in 6 months of 2014 (Exhibit 10).

**Exhibit 10: Timing of ART Start in Odesa Oblast**



**Exhibit 11: Objective 4 Accomplishments**

LOP Expected Results	Y2 Milestones
<ul style="list-style-type: none"> <li>• Identify the gaps for TB/HIV integrated service delivery and referral systems and develop a plan for addressing the gaps.</li> <li>• Improve the capacity of local organizations through technical assistance for HIV and TB/HIV related activities. and</li> <li>• Improve the policy environment among local organizations to support HIV and TB/HIV related activities</li> <li>• Adapt and implement the HIV testing and referral model for TB patients at USAID-assisted sites.</li> <li>• Increase the percentage of TB patients who have a HIV test result recorded in the TB register among the total number of registered TB patients.</li> <li>• Increase the proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-assisted sites</li> <li>• Increase TB screening and referral model for HIV positive patients implemented at USAID-assisted sites.</li> <li>• Increase the percentage of HIV positive patients who underwent TB screening at a HIV service delivery location.</li> <li>• Increase the proportion of newly diagnosed HIV and TB individuals who underwent diagnostic and counseling services for dual infection in USAID-assisted sites</li> </ul>	<ul style="list-style-type: none"> <li>• “Action Plan for capacity building and improvement of TB/HIV co-infection services to address gaps in TB/HIV referral system and integrated services” has been adopted by UCDC and recommended for implementation.</li> <li>• A draft of the "National clinical protocol for case management of TB / HIV" was developed and is being revised.</li> <li>• The Nation M&amp;E Plan on TB/HIV was developed and is being revised.</li> <li>• 34 health facilities, including regional TB facilities and AIDS centers in all pilot regions received TA through 15 mentoring visits.</li> <li>• e-TB Manager populated with essential TB/HIV case management data by all supported regions</li> <li>• Regional regulations to streamline TB/HIV policies and guidelines to improve cooperation between TB and HIV services and referrals approved by Odesa, Kharkiv, Luhansk and Donetsk oblasts health administrations</li> <li>• Increased number of at-risk persons who underwent TB and HIV screening and obtained results</li> <li>• Information on risk of HIV, HIV detection and integrated care efficiency available to TB patients of penitentiary health care facilities</li> <li>• Reporting on PITC results among TB patients launched based on improved R&amp;R forms</li> <li>• infectious diseases specialists of AIDS centers in all USAID supported oblasts are now applying internationally recommended practices</li> <li>• KOCF “Parus” in Kharkiv region launched service provision on TB detection, care, and referring of persons with risk of TB and HIV (see Task 4.1.3)</li> <li>• Reporting on results of TB screening for PLWH launched based on improved R&amp;R forms</li> </ul>

## II. SCHEDULES

- The armed conflict in Donetsk and Luhansk oblasts effectively prevented STbCU's holding training events and most mentoring visits from May 2014 through the time of report writing. Additionally, the uncertain political and security situation in Kyiv in January and February caused some delays as some Kyiv-based events were postponed and some counterparts (such as the SES IC expert group) were required to stay in Kyiv and not conduct monitoring visits with the project. STbCU responded, however, by rescheduling events and/or shifting venues to safer locations (such as Dnipropetrovsk, Kyiv, and Odesa). By September 2014, therefore, most Year 2 project events (including training, seminars, and roundtables) had been successfully rescheduled and completed.
- STbCU purchased two GeneXpert machines in Year 1 and in October 2013 received Contracting Officer approval to dispose of them to UCDC, which would then transfer them to the Kyiv AIDS Center and Kryvyi Rih TB Dispensary No. 2. In late 2013, however, UCDC informed the project that it would not be able to complete the transfer of this equipment as originally planned. STbCU then worked with the individual facilities to become registered as project recipients and undergo the customs clearance process. During that process, the Kyiv AIDS Center was changed for the Odesa Oblast TB Dispensary as one of the recipients due to their willingness to undergo the required procedures. Both recipients were fully registered by August 2014, and STbCU is currently working with the manufacturer, customs, and the recipients to ship the GeneXpert machines to Ukraine.
- STbCU's small grants for ACSM and operational research have been delayed until Year 3. STbCU released an annual program statement for ACSM grants in July and expects to award 3-5 grants by the end of December 2014. The request for applications for operational research was published in October, with an additional 3-5 awards anticipated by the end of December.
- In Year 2 STbCU had planned to train SES representatives and TB specialists on improved engineering for infection control and laboratory IC through a study tour to Vladimir, Russia. This activity has been postponed, until Year 3, however, so that a new destination, such as Georgia or another post-Communist neighbor having undergone a similar healthcare system transition, can be identified.

### III. CHALLENGES

During Year 2, the team worked to overcome a number of challenges, described below.

- The annexation of Crimea in March 2014 made it impossible to continue working in two of STbCU's regions: Sevastopol City and the rest of the Autonomous Republic of Crimea. All Crimea activities (including training of clinicians and laboratory specialists and mentoring visits) were concluded by the end of March.
- The security situation in Ukraine from January through the time of report writing has hampered some project travel, thereby causing the project to postpone or cancel mentoring some visits and trainings. The most affected regions are Donetsk and Luhansk, but occasionally events in Kyiv were also rescheduled. This is described more fully in the Schedules section.
- While not a significant challenge to project implementation, the ongoing government reform, including the restructuring of key project counterparts the State Service and SES, initiated in late February 2014 has led to some delays as these counterparts redefine their own priorities.

The following key lessons were learned during Year 2:

- A flexible, responsive, yet proactive approach has been a successful way to meet unexpected challenges and ad hoc requests on the part of counterparts as the State Service, UCDC, SES, and Ministry of Health navigate a nascent reform process;
- Integration of TB and HIV services remains an unmet need. For this reason, the creation of joint regional mentoring teams (with specialists from TB and HIV/AIDS services) will promote improved integration and efficiencies;
- Although, oblast councils and regional coordination councils have begun to understand the need for greater IC measures, financing of TB IC activities remains an obstacle; therefore the project's efforts to identify and implement low-cost IC methods will remain part-and-parcel of its broader IC strategy work at the national level going into Year 3; and
- The existing health system financing model remains an impediment to true systemic reform. Therefore the project will continue analysis, piloting, and advocacy of ambulatory care modules to demonstrate cost savings and treatment efficacy results to decision makers at local and national levels.

## **ANNEXES**

Annex A. Performance Monitoring and Evaluation Report

Annex B. Success Stories

Annex C. List of Sub-Awards

## ANNEX A. PERFORMANCE MONITORING AND EVALUATION REPORT

Exhibit A-1. Strengthening Tuberculosis Control in Ukraine (STbCU) Project Indicators

Indicator	Frequency	Reporting Period	Baseline	Year 2 (2013) Targets	Year 2 (2013) Results	
Project Objective: Decreased TB burden, contributing to a reduction of TB morbidity and mortality, decreasing the burden of TB through specific quality assurance and systems strengthening measures for routine TB services, and MDR-TB and HIV/TB co-infection						
Project Intermediate Result (PIR) 1. Improved quality and expanded availability of the WHO-recommended DOTS-based TB services in USAID-supported areas						
1.	TB incidence (notification rate) in USAID-supported areas, per 100,000	Annually	January – December 2012	72.9	69.0	72.5
2.	TB mortality rate in USAID-supported areas, per 100,000	Annually	January – December 2012	17.9	15.9	15.8
3.	Treatment success rate in USAID-supported areas (cohort indicator)	Annually	January – December 2011	54.2%	66%	58.2%
4.	Lost to follow up rate in USAID-supported areas (cohort indicator)	Annually	January – December 2011	9.4%	8.0%	8.9%
5.	Treatment success rate nationally (cohort indicator)	Annually	January – December 2012	56.6%	65%	63.3%
6.	Treatment success rate in non-USAID-supported areas (cohort indicator)	Annually	January – December 2012	67.1%	66%	69.1%
7.	Percent of laboratories in USAID-assisted areas performing TB microscopy with over 95% correct microscopy results	Annually	January – December 2012	72.3%	81.6%	88.2%
8.	Smear microscopy TB detection at the PHC level	Annually	January – December 2012	2.2%	3.0%	3.1%
9.	Percent of smear-positive individuals with positive TB culture	Annually	January – December 2012	46.0%	50%	59.5%
10.	Percent of estimated number of new TB cases that were detected under DOTS	Annually	January – December 2011	73.0%	73%	73.4%
11.	Percent of public sector TB treatment facilities with health care professionals trained in TB case detection and treatment based on DOTS <sup>1</sup>	Annually	April 2012 – September 2013	0%	60%	54.2%
12.	Number of health care workers who successfully completed an in-service training program	Quarterly	April 2012 – September 2013	0	800	719

<sup>1</sup> Reflected in the Task Order as indicator “Number of people (medical personnel, health workers, community workers, etc.) trained on DOTS with USG funding”

Indicator		Frequency	Reporting Period	Baseline	Year 2 (2013) Targets	Year 2 (2013) Results
13.	Percent of Ukrainians with access to DOTS services that meet international standards	Annually	January – December 2012	50.0%	50.0%	50.7%
<i>PIR 2. Creating a safer medical environment at the national level and in USAID-supported areas</i>						
14.	TB incidence among health care workers, per 10,000	Annually	January – December 2012	7.5	6.0	6.8%
15.	Number of facilities with proper infection control practices in place	Annually	April 2012 – September 2013	6	50	56
16.	Proportion of health care workers that are knowledgeable on proper infection control practices	Annually	April 2012 – September 2013	0%	30%	3.2%
<i>PIR 3. Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB in USAID-supported areas</i>						
17.	MDR-TB treatment success rate among new MDR-TB cases (cohort indicator) in USAID-supported areas	Annually	January – December 2010	36.6%	45.0%	48.7%
18.	MDR-TB default rate among new MDR-TB cases (cohort indicator)	Annually	January – December 2010	12.3%	8.7%	13.7%
19.	Percent of Level 3 laboratories in targeted regions performing quality-assured culture and DST	Annually	January – December 2012	64.0%	80.0%	85.7%
20.	Percent of health facilities with proper MDR-TB management	Annually	April 2012 – September 2013	0%	35.0%	33.3%
21.	Percent of Ukrainians in USAID-assisted areas with access to PMDT that meets WHO international standards	Annually	January – December 2012	50.0%	50.0%	50.0%
<i>PIR 4. Improve Access to TB/HIV Co-infection Services at the national level and in USAID-supported areas</i>						
22.	Percentage of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB patients in USAID-supported sites	Semi-annually	January – December 2012	80.0%	85.0%	95%
23.	Proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-supported sites	Semi-annually	January – December 2012	80.0%	85.0%	94.2%
24.	Proportion of TB patients who are counseled and tested for HIV at USAID-assisted sites (Previously indicator 26)	Semi-annually	January – December 2012	80.0%	85.0%	95%

## Comments on the Indicators

### PIR 1. Improved quality and expanded availability of the WHO-recommended DOTS-based TB services in USAID-supported areas

*Indicator 1.* The TB incidence rate in USAID-supported areas in 2013 makes 72.5 cases per 100,000 population. This is lower than the incidence rate in 2012 – 73.2 cases per 100,000 population, but exceeded the project’s target for Year 2 of 69.0 cases per 100,000. The dynamics of this indicator in each individual project-supported oblast is different. Due to improved TB diagnostic procedures the incidence rate increased in 2012 in Odesa, Kherson, Zaporizhzhia oblasts, and Kyiv city and comes below the baseline only in Kherson oblast in 2013. This trend affects the aggregated indicator. Incidence rate in the rest of the six project-supported oblasts is steadily decreasing. (See Exhibit A-1)

#### Exhibit A-2. Incidence rate per 100 000 population in USAID-supported areas in 2011, 2012 and 2013

Region	2011	2012	2013
Crimea	76.3	76.6	76.2
Dnipropetrovsk oblast	95.4	92.9	91.0
Donetsk oblast	73.1	71.7	71.3
Zaporizhzhia oblast	65.8	69.4	67.5
Luhansk oblast	79.9	79.1	78.6
Odesa oblast	87.8	94.0	90.6
Kharkiv oblast	54.5	49.8	44.7
Kherson oblast	98.5	107.9	96.2
Kyiv city	38.9	41.2	52.5
Sevastopol city	62.3	62.2	59.8
Total	72.9	73.2	72.5

*Indicator 2.* The mortality rate in USAID-supported areas in 2013 came to 15.8 cases per 100,000 population and is below the estimated rate of 15.9 cases per 100,000 population. This is 10 percent lower than in 2012 (mortality rate in 2012 was 17.5 cases per 100,000 population).

*Indicators 3-6.* These indicators measure the treatment success rate in USAID-supported areas (cohort indicator), the lost to follow up rate in USAID-supported areas (cohort indicator), and the treatment success rate nationally in non-USAID-supported areas (cohort indicator) (Exhibit A-2).

**Exhibit A-3. Treatment Outcome Disaggregated by Oblast**

Region	Treatment Success (Percent) Baseline	Treatment Success (Percent) 2012	Treatment Success (Percent) 2013	Target 2013	Death (Percent) 2013	Lost to follow up (Percent) 2012	Lost to follow up (Percent) 2013
AR Crimea		47.3	58.7		19.9	6.5	10.1
Dnipropetrovs k oblast		47.4	53.4		19.9	9.5	9.4
Donetsk oblast		51.7	60.2		21.4	3.8	6.6
Zaporizhzhia oblast		48.5	66.0		12.7	10.5	4.2
Luhansk oblast		50.8	50.1		18.0	12.5	9.4
Odesa oblast		45.3	59.6		18.2	9.9	12.2
Kharkiv oblast		51.7	58.5		17.9	8.8	8.5
Kherson oblast		37.3	57.3		16.0	7.2	6.8
Kyiv city		53.8	62.0		13.9	11.4	13.0
Sevastopol city		47.4	60.0		11.4	15.4	8.6
USAID- supported	54.2	48.5	58.2	66%	18.2	8.6	8.9
Non-USAID- supported	67.1	67.7	69.1	66%	12.5	6.6	6.8
Ukraine	56.6	55.0	63.3	65%	15.5	7.5	7.9

*Source: UCDC Annual Report 2014. Data on treatment outcomes are calculated without taking into consideration cases transferred out into 4th category.*

The treatment success rate in USAID-supported oblasts increased by 10 percent in 2013 and makes 58.2 percent comparing to 48.5 percent in 2012. Substantial progress in treatment results took place in Kherson, Zaporizhzhia, and Odesa oblasts where the treatment success rate increased in 2013 by 20 percent, 17.5 percent, and 14.3 percent respectively.

According to the PMEP, treatment success rate in the USAID-supported oblasts in Year 2 was expected to reach the level of non-USAID supported oblasts and to make 66 percent. Although, the target is not reached so far, the difference in treatment success rate between USAID-supported and non-USAID supported oblasts is progressively shortening. In 2012 the difference was 19.2 percent while in 2013 it is 10.9 percent. The difference in the treatment success rate between the national rate and the rate in USAID-supported oblasts also slightly decreased and was 5.1 percent in 2013 vs. 6.5 percent in 2012.

Lost to follow up rate in USAID-supported oblasts was 8.9% in 2013. It is less than the target of 8.0 percent by 0.9 percent. Although the lost to follow up rate decreased in 2013 vs 2012 in Zaporizhzhia oblast by 6.3 percent, Sevastopol city by 6.8 percent, in Luhansk oblast by 3.1 percent in three oblasts it increased: in AR Crimea by 3.6 percent, in Donetsk oblast by 2.8 percent and in Odesa oblast by 2.3 percent. This

difference in progress between the oblasts accounts for the total slow progress of the aggregated loss to follow up indicator.

Treatment outcomes are affected by several factors. Main barriers to the treatment success in 2013 were:

- Shortage of both first- and second-line drugs, lack of buffer stock of essential drugs, poor pharmaceutical management and frequent reallocation of drugs between oblasts without thorough analyses and proper justification;
- In 2013 National TB Protocol allowed conducting treatment of TB patients without DOTS and using treatment schemes for patients with mono- and poly-resistance that contradict international standards (adding one drug instead of two drugs);
- Low coverage of TB/HIV patients with, and late prescription of, ARV therapy;
- Insufficient infection control measures within TB hospitals;
- Lack of drugs for managing adverse effects and insufficient level of knowledge among TB doctors about adverse effects of TB drugs;
- Insufficient social support for control treatment at the outpatient level.

**Exhibit A-4. TB Treatment Outcomes Disaggregated by Gender and Oblast**

Region	Treatment Success (Percent)		Death in Cohort (Percent)		Failure (Percent)		Lost to Follow Up (Percent)	
	M	F	M	F	M	F	M	F
Dnipropetrovsk oblast	44.8	48.3	17.6	17	25.7	23.8	8.9	6.1
Kharkiv oblast	58.2	65.3	19.1	13.5	10.3	11.5	8.2	6.7
Kherson oblast	55	63.9	17.2	12.5	15.3	15.3	8.6	1.4
Odesa oblast	60	58.7	17.5	19.9	8.3	9.7	13.1	2.2
Zaporizhzhia oblast	57	55.4	9.2	14.4	25.7	24.5	4.3	2.2
Kyiv city	51.6	52	12.3	9.8	24.2	19.5	9.7	15.4
USAID supported	53.3	55.5	15.9	15.4	18.7	18.1	9.2	7.2

*Indicator 7.* The proportion of laboratories in USAID-assisted areas performing TB microscopy with over 95 percent correct results in 2013 reached 88.2 percent, exceeding the target of 81.6 percent. Luhansk, Odesa, Zaporizhzhia oblasts, and AR Crimea demonstrated the best progress in improving quality of AFB microscopy at first-level level laboratories. Thus in Luhansk oblast before 2013 external quality assurance (EQA) of sputum smear microscopy had not been conducted for several years. In 2013, 71.4 percent of first-level laboratories passed EQA with over 95 percent correct microscopy results. In Odesa oblast the quantity of first-level laboratories that passed panel testing of sputum smear microscopy method with over

95 percent correct microscopy results increased by 50.6 percent. The rest of USAID-supported oblasts continuously demonstrate high results. All WHO-recommended EQA methods, including panel testing, blinded rechecking, and on-site mentoring are being employed to different extents in all USAID-supported oblasts. (Exhibit A-5).

**Exhibit A-5. EQA results in USAID-supported regions**

Region	Number of laboratories that participated in EQA	Number of laboratories performing TB microscopy with over 95% correct results	Percent of laboratories performing TB microscopy with over 95% correct results, 2013	Percent of laboratories, demonstrated 95% and more correctness, 2012
Dnipropetrovsk	36	34	94.4	100
Donetsk	66	61	92.4	97.4
Kharkiv	40	40	100.0	97.5
Kherson	24	24	100.0	100
Luhansk	35	25	71.4	0
Odesa	50	34	68.0	17.4
Zaporizhzhia	36	35	97.2	78.6
AR Crimea	23	20	87.0	56.3
Kyiv	24	22	91.7	96.2
Sevastopol	6	5	83.3	100
Total	340	399	88.2	74.3

*Indicator 8.* The smear microscopy TB detection rate at the PHC level in USAID-supported regions during the reporting period reached 3.1 percent and met the Year 2 target of 3.0 percent. The rate in USAID-supported regions significantly exceeds the Ukrainian average of 1.8 percent. This confirms the sustainability of improvements achieved through project activities. In 2013 the smear microscopy TB detection rate significantly increased in Luhansk and Odesa oblasts: 3.0 percent vs 1.3 percent in 2012 and 3.5 percent vs 1.9 percent in 2012. In Donetsk oblast the rate of 4.6 percent is reaching the WHO recommended rate of 5.0 percent. All USAID-supported oblasts, except Kharkiv oblast, improved the quality TB detection at the PHC level including selection of patients for TB diagnostics, quality of sputum samples collection, and quality of laboratory analyses. This resulted in improvement of the smear microscopy TB detection rate in almost all oblasts. The low level of smear microscopy TB detection rate in Kharkiv oblast is due to high levels of saliva samples frequency in PHC lab logbooks in some, indicating systemic over-selection of patients.

The disaggregation by region is presented in Exhibit A-6.

**Exhibit A-6. Smear microscopy TB detection in the USAID-supported regions**

Region	2011 (Percent)	2012 (Percent)	2013, (Percent)
AR Crimea	2.7	3.0	2.7
Dnipropetrovsk oblast	3.0	3.7	3.7
Donetsk oblast	4.2	4.4	4.6

Kharkiv <i>oblast</i>	1.1	1.3	1.3
Kherson <i>oblast</i>	3.7	4.4	3.7
Luhansk <i>oblast</i>	1.3	1.3	3.0
Odesa <i>oblast</i>	1.4	1.9	3.5
Zaporizhzhia <i>oblast</i>	2.1	2.3	2.8
Kyiv	3.1	3.1	3.2
Sevastopol	2.9	3.4	2.9
<b>Total in USAID-supported regions</b>	<b>2.2</b>	<b>2.6</b>	<b>3.1</b>

*Indicator 9* records the percentage of smear-positive individuals with positive TB culture. In USAID-supported regions this indicator made 59.5 percent in 2013 and exceeds the target rate of 50 percent by 9.5percent, indicating improved laboratory performance.

*Indicator 10* records the percentage of the estimated number of new TB cases that were detected under DOTS. In 2013 in Ukraine 73.4 percent of estimated number were detected under DOTS that corresponds to the project target of 73 percent. For calculation the project used the official data presented in the WHO TB global report 2013.

*Indicator 11* records the percentage of public sector TB treatment facilities with health care professionals trained in TB case detection and treatment based on DOTS. Project trainings built the capacity of TB doctors and laboratory specialists from 39 out of 72 TB facilities in USAID-supported regions. This makes 54.2 percent of all TB facilities working in the regions that are slightly less than the target of 60 percent. In the second half of Year 2 some staff from TB facilities from Donetsk and Luhansk oblasts could not participate in the project’s trainings due to the armed conflict in this oblast. Thus the coverage with training of TB facilities in Donetsk oblast made 14 percent ( two facilities out of 14) and in Luhansk oblast, 27 percent (three facilities out of 11).

*Indicator 12*, In Year 2, 719 health care workers successfully completed an in-service training program. STbCU continue focusing in Year 2 on training medical professionals working in PHC facilities and laboratory technicians who perform sputum smear microscopy (see Exhibit A-7).

The largest number of training sessions per region was held in Dnipropetrovsk oblast at the Dnipropetrovsk CoE (13 training events for 244 specialists from all USAID-supported regions). During Year 2, two international training events were held as well: one in Tomsk, Russia, and one in Tartu, Estonia (see Exhibit A-8).

**Exhibit A-7. Number of Trained Specialists by Specialty and Work Venue**

Specialty	Region										Total
	AR Crimea	Dnipropetrovsk	Donetsk	Zaporizhzhia	Luhansk	Odesa	Sevastopol City	Kharkiv	Kherson	Kyiv City	
PHC doctors	–	45		50	38	25	–	57	55	25	295
TB specialists (doctors and nurses)	1	31	4	41	1	16	–	30	44	42	210
Laboratory specialists	–	14	8	10	8	16	–	16	8	9	89
HIV specialists	–	10	–	6	–	–	–	2	1	–	19
Specialists of SES	–	4	6	4	6	3	–	5	5	8	41
Professors of medical universities*	1	2	–	4	–	3	–	2	–	4	16
Social workers	–	2	8	7	5	8	3	3	–	4	40
Medical statisticians	–	–	3	1	–	–	–	–	3	–	7
Other specialists	–	1	–	–	1	–	–	–	–	–	2
<b>Total</b>	<b>2</b>	<b>109</b>	<b>29</b>	<b>123</b>	<b>59</b>	<b>71</b>	<b>3</b>	<b>115</b>	<b>116</b>	<b>92</b>	<b>719</b>

**Exhibit A-8. Training Activities by Location**

Name of training	Place of training	Number of trainings	Number of trainees
TB case management in PHC facilities	Dnipropetrovsk CoE	7	137
	Kherson	1	25
	Sevastopol	-	-
	Kharkiv	1	25
	Zaporizhzhia	1	25
	Kyiv city	1	25
	Luhansk	1	26
	Odesa	1	22
TOT on TB case management in PHC facilities for faculty members of the medical universities	Kyiv	1	11
TB detection and diagnostics by sputum smear microscopy. Internal and external quality assurance	Dnipropetrovsk CoE	2	25
	Kyiv	1	12
TB culture tests at Level II laboratories. Internal and external quality assurance	Kyiv	2	20
TB Infection control in medical facilities	Kyiv	2	40
TB infection control in laboratories for lab specialists	Kyiv	1	22
TB infection control in laboratories for the specialists of SES	Kyiv	1	20
Program and clinical management of MDR TB for nurses	International training center Tomsk, Russia	1	6
MDR TB case management	Dnipropetrovsk CoE	3	67
	Kyiv	1	26

Data processing and Internet searches for TB control resources – two two-days trainings	Donetsk	1	10
	Odesa	1	10
Treatment adherence of TB/HIV patients. HTC in TB patients.	Odesa	1	20
	Zaporizhzhia	1	20
Cohort analyzes of TB and MDR TB cases (on-the-job training)	Kherson	1	25
TB/HIV case management (on-the-job training)	Zaporizhzhia	1	24
	Dnipropetrovsk	1	15
HTC for NGOs	Odesa	2	55
Programmatic management of TB/MDR TB cases (for physicians)	International training center Tartu, Estonia	1	6
<b>Total number of trainings and trained specialists</b>		<b>38</b>	<b>719</b>

*Indicator 13* records the percentage of Ukrainians with access to DOTS services that meet international standards. In 2013, DOTS coverage in Ukraine was at 50.8 percent, almost the same as in 2012, when the coverage was 50.7 percent. It is slightly above the target of 50 percent.

## **PIR 2. Creating a safer medical environment at the national level and in USAID-supported areas**

*Indicator 14* records the incidence rate of TB among health care workers. The incidence rate of TB among health care workers in 2013 slightly decreased against the rate in 2012 and made 6.8 per 10,000 vs 7.2 per 10,000. However it remains above the target of 6.0 per 10,000. At the same time number of HCW of TB dispensaries diagnosed with TB in USAID-supported regions in 2012 and 2013 did not change and made 46 cases during each year.

### **Exhibit A-9. Incidence rate of TB among HCW in 2012 and 2013**

Region	Incidence rate of TB among HCW in 2012	Incidence rate of TB among HCW in 2013
AR Crimea	10.6	10.0
Dnipropetrovsk <i>oblast</i>	7.9	10.0
Donetsk <i>oblast</i>	5.3	5.2
Kharkiv <i>oblast</i>	7.3	4.1
Kherson <i>oblast</i>	14.6	10.1
Luhansk <i>oblast</i>	6.9	8.9
Odesa <i>oblast</i>	8.3	5.9
Zaporizhzhia <i>oblast</i>	7.1	6.3
Kyiv	3.8	4.2
Sevastopol	4.6	7.6
USAID-supported regions	7.2	6.8

*Indicator 15* records the number of facilities with proper infection control practices in place. List of healthcare facilities providing TB care with IC plans in place:

1. Alchevsk TB dispensary;
2. Rovenky TB hospital;
3. Krasnyi Luch TB hospital;
4. Kherson city TB outpatient clinic;

5. Tsiurupinsk children's TB hospital;
6. Kyiv city TB dispensary #3;
7. Kyiv city TB hospital #2;
8. Novotroitsk raion TB facility Kherson oblast;
9. Novozburiivka raion TB facility Kherson oblast ;
10. Kherson oblast AIDS center;
11. Donetsk oblast AIDS center;
12. Zaporizhzhia oblast AIDS center (inpatient and outpatient departments + laboratory)
13. Odesa oblast AIDS center
14. Kryvyi Rih TB dispensary #2
15. Dnipropetrovsk municipal TB dispensary
16. Kharkiv oblast TB dispensary #1(new MDR-TB department)
17. Kharkiv oblast TB dispensary #3
18. Kharkiv oblast TB dispensary #4
19. Kharkiv oblast TB dispensary #6
20. Polohy central raion hospital, Zaporizhzhia oblast
21. Kyiv city central TB dispensary;
22. Kyiv city TB hospital #1
23. Berdiansk TB dispensary
24. Zaporizhzhia oblast TB dispensary
25. Melitopol TB dispensary;
26. Bolhrad central raion hospital, Odesa oblast;
27. Odesa oblast TB hospital;
28. Izmail central raion hospital, Odesa oblast;
29. Belhorod-Dnistrovskiyi TB dispensary;
30. Kotovsk central raion hospital, Kharkiv oblast;
31. Luhansk oblast TB dispensary;
32. PHC Center # 5 Dnipropetrovsk city.

*Indicator 16* records the proportion of health care workers that are knowledgeable on proper infection control practices. The number of HCWs who demonstrated essential IC knowledge and practice this year had decreased to 3.2 percent and fell short of the target of 30.0 percent.

To assess HCWs' knowledge, the project repeated the survey conducted at the start of the project at the end of Year 1 and Year 2 using consistent methodology, sample selection approach and data collection tool (questionnaire). In 2012 and 2013 the project conducted the survey in 10 USAID-supported oblasts. Unlike in the previous years, the selection of 2014 excluded AR Crimea and Sevastopol city because of the occupation, and Donetsk and Luhansk oblast due to the armed conflict, thus increasing the load distribution to the other regions.

Comparative analysis of surveys conducted in 2012, 2013, and 2014 allows concluding that the project-supported regions showed steady trend towards improvement in IC knowledge among healthcare workers who provide TB diagnostics, treatment, and care.

However, the reason for the fall in this indicator is most likely due to how it is being calculated. This is an integrated indicator that is calculated based on 10 questions. Level of knowledge of interviewees per each separate question in 2014 is higher or equal (within statistical bias) to the level of knowledge in 2013 (see exhibit 10). The data presented in this table shows that over half of all respondents gave correct answers to the majority of questions. Overall, the analysis demonstrated either positive dynamics, or that compared to the previous surveys the situation at least remained stable. Decline in correct answers was reported only on two indicators compared to 2013. The analysis showed increased share of healthcare providers who comply with safety rules at workplace in comparison with 2012, the analysis also revealed stabilization of the situation as compared to 2013.

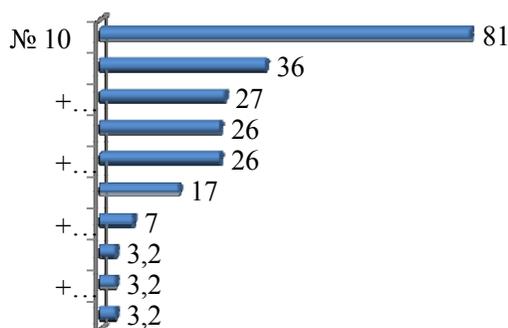
**Exhibit 10. Breakdown of respondents' answers, %**

Question	Answer	2012	2013	2014
10. What do you personally do in order not to be infected with TB?	1. Use respirator whenever I visit MTB+ patients	69%	76%	81%
15. Administrative controls to prevent the spread of TB by:	1. Rapid detection of TB suspected individuals	70%	76%	74%
	5. Control over cough hygiene	46%	59%	55%
21. After the work day, a nurse at MDR-TB department procedure room left an open type UV lamp turned on for all night. Comment on this action.	3. This is wrong, since it does not increase germicidal effect, but leads to decreased effective life of UV lamp.	71%	80%	71%
22. How should bactericidal lamps be disinfected?	2. 70% methylated spirit	88%	93%	95%
23. Which of the following means of protection for healthcare providers can reduce the risk of TB infection?	1. Respirators	99%	99%	99%

Question	Answer	2012	2013	2014
25. Indicate basic principles of respiratory hygiene for TB patients that reduce the risk of infection.	1. Use of disposable containers for sputum collection	86%	86%	90%
	4. Use of disposable napkins, handkerchiefs, and small cloth napkins which have to be disinfected after use to close a nose or mouth at cough	66%	72%	68%
	5. Smear positive patients should wear surgical masks when contacting healthcare providers	78%	84%	82%
26. What class of respirators should be used in TB facilities when dealing with patients?	2. FFP2	30%	53%	49%
	3. FFP3	60%	66%	65%
33. Range the patients for X-ray examination in TB hospitals:				
33_1. Smear negative patients	First	54%	58%	53%
33_2. Smear positive patients and retained susceptibility to TB drugs	Third	89%	88%	83%
33_5. MDR-TB smear positive patients	Fourth	69%	75%	66%

At the same time, during the calculation the integrated indicator sharply decreased with gradual addition of each subsequent question (see Exhibit 11).

**Exhibit 11. Trend of the integrated indicator according after gradual addition of each subsequent question.**



The discrepancies between actual level of knowledge of interviewees per separate question and the level of the integrated indicator allow for the assumption that the survey methodology does not reflect the level of knowledge on IC among HCW, thus does not fully match the project needs and should not be used for calculating this indicator.

**PIR 3. Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB at the national level and in USAID-supported areas**

*Indicators 17-18* record MDR-TB treatment outcomes among new MDR-TB cases (cohort indicator). As in the case of drug-susceptible TB, the rate of treatment success was high among female patients, and the difference was even more pronounced. The gender difference in the frequency of unfavorable outcomes was statistically insignificant (Exhibit A-12)

**Exhibit A-12 . MDR TB Treatment Outcomes in USAID-supported oblasts (cohort 2011)**

Region	Treatment Success (Percent)	Death in Cohort (Percent)	Failure (Percent)	Lost to follow up (Percent)
Dnipropetrovsk oblast	38.9	5.6	0	22.2
Donetsk oblast	34.9	23.3	9.8	22.3
Kharkiv oblast	65.5	9.7	9.7	9.2
Kherson oblast	54.2	17.8	7.5	7.5
Luhansk oblast	52.9	26.5	8.8	0.0
Odesa oblast	42.3	32.7	15.4	3.8
Zaporizhzhia oblast	46.9	26.6	7.8	7.8
AR Crimea	38.2	16.4	10.9	23.6
Kyiv city	47.8	18.8	7.2	18.8
Sevastopol city	0	0	0	0
<b>USAID-supported</b>	48.7	18.9	9.3	13.7

**Exhibit A-13. MDR TB Treatment Outcomes Disaggregated by Gender and Oblast**

Region	Treatment Success (Percent)		Death in Cohort (Percent)		Failure (Percent)		Lost to Follow Up (Percent)	
	M	F	M	F	M	F	M	F
Dnipropetrovsk oblast	23.4	26.6	31.6	32.9	14.3	15.6	18	17.9
Kharkiv oblast	60	62	21.3	17.2	5.3	6.9	9.3	6.9
Kherson oblast	61.5	50	30.8	12.5	3.8	25	0	0
Odesa oblast	45.2	59.1	35.7	13.6	7.1	9.1	7.1	9.1
Zaporizhzhia oblast	33	44.4	26.8	5.5	11	22.2	19.5	11.1
Kyiv city	34.7	70	24.5	10	6.1	10	3.1	10
USAID supported	31	38.1	29.9	25.6	11.9	14.4	17	14.8

*Indicator 19* records the percentage of Level 3 laboratories in the targeted regions performing quality assured culture and DST came to 85.7 percent (12 out of 14 laboratories) against a target of 80.0 percent. In 2013, oblast TB dispensaries in oblast Level 3 laboratories successfully underwent EQA. Two Level 3 laboratories (both in Donetsk oblast) were not covered with national EQA.

*Indicator 20* records the percentage of health facilities with proper MDR-TB management. To evaluate the quality of MDR-TB case management, the project assessed the work of MDR-TB councils in each USAID-supported region. The MDR-TB council is an *oblast*-level consultative board of specialists who are responsible for setting the diagnosis of MDR-TB, prescription of treatment, monitoring drugs stock-outs, and supervising doctors regarding treatment monitoring, side effects management, and registration. Although MDR TB councils are mentioned in Ukrainian regulations as being responsible for MDR-TB diagnostics and treatment, there is no national legislation specifying the functions of the councils in implementation and monitoring of proper MDR-TB case management. Therefore, the project considered case management in the regional TB facilities to be proper if at least three of four criteria were met by the local council (see exhibit A-14). This year operation of Donetsk and Luhansk MDR-councils cannot be assessed due to poor performance of the oblast TB dispensaries. Out of six facilities that were assessed two operated properly, which makes 33.3 percent.

**Exhibit A-14. Quality of MDR-council operation**

Region	Proper registration and timely treatment provision (within seven days after obtaining DST results)	Compliance of treatment regimens with national and international protocols	Compliance with local second-line drug stock-outs	Proper treatment monitoring	Conclusion
Dnipropetrovsk oblast	yes	no	no	yes	Not proper management
Donetsk oblast	Cannot be assessed				
Kharkiv oblast	yes	no	no	yes	Not proper management
Kherson oblast	yes	no	no	yes	Not proper management
Luhansk oblast	Cannot be assessed				
Odesa oblast	no	yes	yes	yes	proper management
Zaporizhzhia oblast	yes	no	yes	yes	proper management
City of Kyiv	no	yes	yes	no	Not proper management

*Indicator 21* records the percentage of Ukrainians in USAID-assisted areas with access to PMDT that meets WHO international standards. PMTD coverage is measured according to the following key criteria: 85 percent of TB doctors trained on PMTD and members of MDR consultative councils received proper MDR TB related information. Based on this criteria ten USAID supported areas with 50 percent of Ukrainian population in 2013 are consider as areas with access to PMDT that meets WHO international standards.

*Indicator 22* records the percentage of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB patients in USAID-supported sites in Year 2. Against a target of 85.0 percent, the project recorded a result of 95 percent. The disaggregation by region is presented in Exhibit A-15.

**Exhibit A-15. Percentage of TB Patients who Had an HIV Test Result Recorded, 2012**

<b>Region</b>	<b>All new TB cases</b>	<b>Cases in which the results of HIV testing were registered</b>	<b>Percentage of cases in which the results of HIV testing were registered</b>
Dnipropetrovsk oblast	5911	5605	95%
Donetsk oblast	4878	4828	99%
Kharkiv oblast	2084	1876	90%
Kherson oblast	1917	1886	98%
Luhansk oblast	3124	2932	94%
Odesa oblast	3772	3727	99%
Zaporizhzhia oblast	1937	1890	98%
Kyiv	2463	1931	78%
<b>USAID-supported regions</b>	<b>26086</b>	<b>24675</b>	<b>95%</b>

*Indicator 23* records the proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-supported sites came to 94.2 percent against 80.0 percent target rate. During the reporting period, 27,964 of 39,814 newly diagnosed TB and HIV cases were covered by TB and HIV counseling.

*Indicator 24* records the proportion of TB patients who are counseled and tested for HIV at USAID assisted sites. Please see the explanation of Indicator 22.

*Indicators 25-29* will be reported by November 3, 2014 per discussion with USAID PEPFAR coordinator as these are PEPFAR indicators that can only be calculated for the period of October 1, 2013-October 1, 21014.

## ANNEX B. SUCCESS STORIES



**USAID** | **UKRAINE**  
FROM THE AMERICAN PEOPLE

### Bringing TB Treatment Closer to Patients' Homes

**USAID, in cooperation with Ukrainian Red Cross Society nurses, is helping people in difficult life circumstances recover from tuberculosis.**



*Nurse consulting a client using "Patient's Diary," a booklet tracking patient's treatment progress developed by the USAID STbCU Project*

**"I have been working in the program since May 2014, and this is my first experience as a visiting nurse.**

**What I really like about the program is that it allows patients to take daily medication under the direct supervision of a nurse, in a place convenient for them. It helps them spend less time on treatment and maintains confidentiality.**

**I know from my own experience that quite often you are just too busy with something and forget to take pills. However, the key to successful TB treatment is regular intake of medication over a long period of time."**

*Mariia,  
Visiting Nurse*

In May 2014, Iryna became one of the first clients of the joint program launched by the USAID Strengthening Tuberculosis (TB) Control in Ukraine Project and the Ukrainian Red Cross Society ("Red Cross") to support patients diagnosed with TB overcome obstacles to treatment.

A screening detected TB when Iryna enrolled with an unemployment agency. Iryna had previously worked for three consecutive years as a seasonal agricultural worker in Kherson oblast. In 2012, she worked with a man with a chronic cough. Later, Iryna learned that the coworker had TB and that she had also contracted the disease.

"When I got TB and was admitted to the hospital, not only my neighbors, but even people in the adjacent district learned about it. Their first reaction was quite negative. They even forbade my kids to play with their children. It caused me so much pain. I am a single mother. I have four children. You can imagine how difficult it was to explain why children will not play with them! We regularly visit the doctor, my children were examined, and they are completely healthy. Now the situation is a bit better – our neighbors are used to it. I really want to get well. I need to raise four children, but going to a TB dispensary every day to get treatment is time-consuming, and people will know. So I am very grateful to the program for the opportunity to be treated close to my home, so that I do not leave my children unattended for long."

Mariia, a Red Cross visiting nurse helping Iryna, describes Iryna's treatment, "We meet mostly outside, on a bench near the bus station - it was Iryna's wish, so her neighbors would not know she is being treated for TB." Meeting close to her home, Mariia is able to give Iryna advice about her TB treatment and other health issues on the busy mother's schedule.

Iryna has been unemployed for the last 18 months, since she learned about the disease. Food packages which are provided by the program and aim to additionally support the clients are also highly appreciated. "I have not worked since the moment TB was detected," says Iryna. "The issue is that recruitment includes an occupational health examination, and they refuse to hire me once they learn about the diagnosis, even though I completed the main course of treatment and cannot infect anybody. Now I am in a very difficult situation, and food packages are helping me and my children a lot. Thanks to the support program and my visiting nurse, I will be on treatment as long as I need to get cured from TB."



## TB is especially dangerous when combined with HIV. Still it is curable.

USAID's STbCU project saves lives teaching physicians of HIV positive patients to promptly diagnose and effectively treat TB, with a focus on patients' special needs



Photo: Zaporizhzhia AIDS Center

*Epidemiologist in oblast AIDS Center teaches Boris to wear mask correctly*

"Treatment of TB is a sophisticated process. Experience that we gain through collaboration with USAID helps us to improve TB case management results at each stage.

We learn to carefully follow international guidelines: to timely diagnose the disease and prescribe treatment, comply with infection control requirements, and correctly determine treatment outcomes.

A lot depends on how a doctor manages to establish good contact with a patient, to motivate him to complete the treatment. We lead our patients hand in hand, step by step, fighting the disease and achieving success together.

*Tetyana Bulana,  
Zaporizhzhia oblast AIDS center  
physician*

Boris is 42 and has left behind a rather difficult period in his life: he was an injecting drug user, spent time in prison, contracted HIV and had a long still successful tuberculosis (TB) treatment.

In 2013, Boris was again diagnosed with TB, and initially fell into complete despair. "From his previous experience, Boris knew how long and difficult the healing process can be. He thought that his life came to an end, he lost the fight, and it was easier to give up to unhappy fate," says Tetyana Bulana, Zaporizhzhia oblast AIDS center physician.

But Boris didn't realize that he had two strong weapons in his fight against this second bout of TB: early detection and a tailored treatment plan designed to support his individual needs. Both of those were possible due to USAID support through the Strengthening Tuberculosis Control in Ukraine project.

STbCU promotes using a TB screening questionnaire for HIV positive patients (who are more likely to develop TB than the general population), and encourages the use of the TB diagnostic method Xpert MTB/RIF. Both of these methods make early TB detection possible.

USAID also insists on implementation of WHO-recommended approaches to treatment: services for TB care should identify and address factors that may make patients interrupt or stop treatment. Direct observation of therapy (DOT) by medical staff helps patients to take their drugs regularly and complete treatment, thus achieving cure and preventing the development of drug resistance.

Doctors and social workers supported Boris and convinced him to start fighting for his life. Boris takes his TB medication under the supervision of medical staff daily. He has also started taking antiretroviral therapy, which helps protect against developing AIDS. Lastly, he has started drug substitution therapy, which also contributes to Boris' high adherence to treatment.

Due to timely TB diagnostics, quality medical care, strong support by experienced medical and social staff, Boris is recovering. He is now optimistic about his future: "Thank you for persuading me to start my treatment and thus continue my life. I have so many plans ahead!"



## Project Guides TB Control in Highest Risk Areas

**USAID has helped Ukraine's state agency responsible for TB infection control to introduce new practices by mentoring health facility staff and increasing their abilities to manage TB infection control.**



Photo: USAID Strengthening TB Control in Ukraine Project

*SES experts provide mentoring and support to health facilities to better implement TB IC measures*

**“We’ve made a good start in changing our approaches from punitive functions to monitoring implementation of TB infection control.”**

*Anatoly Ponomarenko,  
Head of the State SES*

“You can’t live without breathing,” says Victoria Cherkasova, Head of Epidemiological Department of the Luhansk Oblast State Sanitary and Epidemiology Service (SES) regarding the importance of tuberculosis (TB) infection control. While the threat of TB infection is found everywhere in Ukraine - in transport hubs, stores, market places, educational facilities, churches, and offices – the largest and most direct threat is concentrated in medical facilities and penitentiary institutions.

It is unacceptable for patients seeking medical care for one disease to contract a second health problem – TB – because of lax infection control procedures. Likewise, TB should not become an additional punishment for prison inmates.

USAID is supporting Ukraine’s SES, which is responsible for TB infection control, and oblast health authorities to improve TB infection control measures and create a safer environment in Ukrainian health facilities. Today there are sustainable changes in SES approaches to TB infection control.

To make progress possible, the USAID Project administrated changes on two levels: first, training and advocating changes within SES and second, encouraging health care providers to pay more attention to infection control, and ask SES’s advice in improving the medical environment in their facilities. Project interventions included training for 824 healthcare workers and supporting SES in forming a national TB infection control expert group. Through direct mentoring visits and consultations, the group promotes the implementation of up-to-date TB infection control measures, lobbies for national and regional policies, and provides support to regional SES staff.

As a result of USAID support, the SES has moved away from its original function identifying violations of IC standards and penalizing healthcare facilities, to a more collaborative and supportive approach that focuses on providing technical assistance in order to build capacity of TB hospitals to manage infection control measures. In Luhansk Oblast, for example, the SES has included mentoring of health providers on TB infection control into local personnel job descriptions and initiated mentoring visits to all TB facilities to ensure their compliance with infection control requirements recommended by the World Health Organization (WHO). The oblast has developed cross-sectoral cooperation on TB infection control issue with all actors within the local healthcare system, including the social services.

In less than one year, the SES infection control expert group has helped improve evidence-based TB infection control practices in 34 health care facilities in the USAID-supported regions. Even simple measures, such as the Zaporizhzhia oblast TB dispensary dividing patients flows (isolating non-diagnosed, drug susceptible, and MDR-



## USAID makes a Difference in Laboratory Testing

**99.7% laboratories in the USAID project-supported regions underwent external quality assessment laboratory testing**



Photo: USAID Strengthening TB Control in Ukraine Project

*Head of MOH Central Reference Laboratory Anna Barbova supervises a laboratory specialist*

**"In 2013 we took a big step towards ensuring quality laboratory testing in Ukraine: at the national level and under the supervision of the MOH Central Reference Laboratory, we developed a national protocol on external quality assurance for TB diagnostics for all TB network laboratories.**

**The USAID-supported regions are the most successful in implementing EQA procedures. They accumulated significant experience which will be used during TB laboratory testing all over Ukraine."**

*Anna Barbova,  
Head of Ukraine's  
Health Ministry Central Reference  
Laboratory*

Quality laboratory diagnostics are key to ensuring correct diagnosis and administering effective tuberculosis (TB) treatment. The World Health Organization (WHO) recommends that all laboratories undergo annual external quality assessments (EQA).

In 2008 USAID initiated smear microscopy EQA in its pilot regions. The number of laboratories which participated in EQA increased annually, and in 2013, the Ministry of Health (MOH) Central Reference Laboratory, with the assistance of the USAID Strengthening Tuberculosis Control in Ukraine Project (STbCU), conducted EQAs on 339 out of 340 primary healthcare level laboratories in the region. The majority of laboratories used panel testing and random sample checks simultaneously, as recommended by the WHO.

The yields achieved in 2013 are impressive not only because of the sheer number of laboratories successfully undergoing EQA, but also because of the quality of tests performed - over 88% of laboratories (300 out of 340) underwent testing without a single mistake. There is a greater possibility of error when implementing double method EQAs, since it required significant experience and attention to detail.

Kharkiv, Dnipropetrovsk, and Zaporizhzhia oblasts laboratories demonstrated 100 percent accuracy in smear microscopy during the EQA process. Nevertheless, less experienced regions also actively participated in the EQA. Natalia Riabchenko, Head of Luhansk oblast TB facility Laboratory explains, "In 2013, all primary healthcare level laboratories in Luhansk oblast underwent an EQA. I am really grateful to the USAID project and the Head of the MOH Central Reference Laboratory for their help, support, new knowledge and experience, which I used during preparation for smear microscopy EQA in our oblast. We managed to develop high quality results, organized regular site visits to the supervised laboratories, and eliminated common mistakes in smear microscopy testing. I learned how to use rapid and effective methods of laboratory sample processing. Now, it is much easier to collect data and track success of every laboratory from year to year."

## ANNEX C. LIST OF SUB-AWARDS

The following table lists STbCU sub-awards for the period October 1 2013-September 30, 2014.

Name	Contact Information	Title	Duration	Amount, USD	Description
Project Hope	Mariam Sianozova, +37 477 653 011	AID-121-TO-12-00001-00- PROJECT HOPE	April 3, 2012- April 1, 2017	\$4,665,156	Providing technical expertise in infection control, MDR-TB and XDR-TB, TB in prisons, DOTS, community-based DOTS, and Infection Control.
GTBI	Eileen Napolitano, (973) 972-3272	AID-121-TO-12-00001-00- GTBI	August 1, 2012- December 31, 2016	\$176,481	Technical expertise and implementation support for scientific and research activities related to program management of TB, MDR-TB and TB-HIV coinfection.
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-15	nov 20 - dec 23, 2013	\$3,677	organization of 5-day training on “MR TB case management” in Kyiv on November 25-29, 2013 for up to 28 people (25 participants and 3 trainers).
PE Taras Matviychuk	Iryna Peftibay +38 050 435 8080; +38 044 587 8750	STbCU-FPA-16	nov 15 - dec 20, 2013	\$9,245	organization of 5-day training for general practitioners and family physicians “TB case management in the primary healthcare settings” in Luhansk on November 18-22, 2013 for up to 28 people (26 participants and 2 trainers)

PJSC Hotel Dnipro	Tetyana Halyuta office +38 044 254-67-14, cell +38 067 693 03 45	# 6/11/2013	nov 6 - 7, 2013	\$624	rental of conference hall and meals for participants of 2 working meetings on Nov 7, 2013 at hotel Dnipro
LLC CONSAFETY	Maryna Kobryn' marina@consafety.com.ua; +38 044 3791190	STbCU-FPA-20	nov 27 '13 - jan 25 '14	\$24,117	supply of 11,000 respirators 3M, model 9320+
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-21	dec 4 '13 - jan 3 '14	\$1,436	organization of a round table on "Sputum smear microscopy quality assurance. Summarization of external quality assurance in 1st and 2nd level laboratories of Kherson oblast in 2013" in Kherson on December 6, 2013 for up to 35 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-23	dec 6 '13 - jan 6 '14	\$5,781	organization of 5-day training on "TB detection and diagnosis by direct sputum smear microscopy. Quality assurance" in Kyiv on December 9-13, 2013 for up to 12 participants
PE Taras Matviychuk	Iryna Peftibay +38 050 435 8080; +38 044 587 8750	STbCU-FPA-24	dec 6, 2013 - jan 8, 2014	\$4,674	organization of 5-Day Training of Trainers (TOT) for the representatives of family medicine chairs of the Project-supported pilot regions in Kyiv on December 9-13, 2013 for up to 14 people (11 participants and 3 trainers)

LLC Ukrainian-Bavarian Management Training Center	Svitlana Bogdanova admin@mba.odessa.ua; svetlana.bogdanova2011@yandex.com; +38 066 339 7406; +38 067 4800261	STbCU-FPA-25	dec 10, 2013 - jan 10, 2014	\$1,127	organization of working meeting "Screening for TB among people living with HIV and monitoring referral of patients for diagnostic and treatment of TB " in Odesa on December 11, 2013 for up to 33 and not less than 15 participants
LLC EPOS	Oleksiy Maschenko +38 066 38 22 715; +38 044 462 5268	STbCU-FPA-27	jan 21 – feb 24, 2014	\$1,080	purchase of laptop Fujitsu Lifebook 13,3 "UH572M65B2" for COP Kartlos Kankadze
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-28	feb 7 - mar 7, 2014	\$3,636	organization of 2-day training on "Training 'adherence to TB / HIV, effective referral. Advice comorbidity TB and HIV '" in Zaporizhzhia on February 10-11, 2013 for up to 20 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-29	feb 6 - mar 6, 2014	\$10,116	organization of 5-day training on "TB case management in primary health care facilities" in Kharkiv on February 10-14, 2013 for up to 25 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-30	feb 14 - mar 14, 2014	\$8,086	organization of 5-day training on "TB case management in primary health care facilities" in Kherson on February 17-21, 2014 for up to 25 participants

NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-31	feb 12 - mar 12, 2014	\$1,137	organization of a round table on "Quality Assurance of sputum smear microscopy tests. Result of external quality assurance in the 1st level laboratories in Dnipropetrovsk oblast in 2013" in Dnipropetrovsk on February 14, 2014 for up to 50 participants
PE Taras Matviychuk	Iryna Peftibay +38 050 435 8080; +38 044 587 8750	STbCU-FPA-32	feb 20 - mar 20, 2014	\$1,593	organization of a working meeting on "Screening for TB among people living with HIV and monitoring referral of patients for diagnostic and treatment of TB" in Luhansk on February 21, 2014 for up to 43 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-33	feb 26 - mar 26, 2014	\$763	organization of a round table on "Quality assurance of sputum smear microscopy tests. Result of external quality assurance in the 1st level laboratories in Kharkiv oblast in 2013." in Kharkiv on February 26, 2014 for up to 45 participants
LLC BK-BiKo-Plus	Andriy, Halyna www.peregorodki.co m.ua beeko@ukr.net +38 044 22 33 577; fax +38 044 569 2977	STbCU-FPA-34	mar 17- apr 17, 2014	\$1,501	construction of a partition in one of the larger offices

PE Andriy Sokolyansky	Alina Bryl' +38 050 419 8996	STbCU-FPA-35	mar 17- apr 17, 2014	\$2,826	organization of 2-day training: "Building TB / HIV adherence, effective referral. Consulting patients with TB/HIV co-infection" in Odesa on March 17-18, 2014 for up to 20 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-36	mar 20 - apr 21, 2014	\$826	organization of 2-day training on "Improvement of medical workers' PC skills: Microsoft Excel and Internet browsers." in Donetsk on March 20-21, 2014 for up to 10 participants
PE Mykola Kuzmenko	Natalia Lukanyuk, tel +380 44 247-42-82; fax +380 44 247-42-81; cell +38 050 545-63-79 natalia@mbk.co.ua	STbCU-FPA-37	mar 24 - apr 24, 2014	\$927	organization of 2-day training on "Improvement of medical workers' PC skills: Microsoft Excel and Internet browsers." in Donetsk on March 25-26, 2014 for up to 10 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-38	mar 17 - apr 17, 2014	\$7,504	organization of 5-day training on "TB case management in primary health care facilities" in Zaporizhzhia on March 17-21, 2014 for up to 25 participants
LLC "Hotel COMPLEX "RUS"	Natalya Kostenko +38 067 434 0010; +38 044 256 4115	STbCU-FPA-39	mar 14-28, 2014	\$1,932	Accommodation for 9 participants of training "TB bacteriological diagnostics using solid media. Quality control of bacteriological tests" held in Microbiology Laboratory of Yanovsky Institute of tuberculosis and pulmonology in Kyiv on March 17-21, 2014

PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-40	mar 17- apr 17, 2014	\$2,179	organization of 5-day training on “TB bacteriological diagnostics using solid media. Quality control of bacteriological tests.” in Kyiv on March 17-21, 2014 for up to 11 participants
LLC “Hotel COMPLEX “RUS”	Natalya Kostenko +38 067 434 0010; +38 044 256 4115	STbCU-FPA-41	mar 24 - apr 24, 2014	\$1,174	Accommodation for 7 participants of training “TB bacteriological diagnostics using solid media. Quality control of bacteriological tests” held in Microbiology Laboratory of Yanovsky Institute of tuberculosis and pulmonology in Kyiv on March 24-28, 2014
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-42	mar 21 - apr 17, 2014	\$1,930	organization of 5-day training on “TB bacteriological diagnostics using solid media. Quality control of bacteriological tests” in Kyiv on March 24-28, 2014 for up to 9 participants
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-43	mar 31 - apr 30, 2014	\$670	organization of round table on Roundtable Quality Assurance of Sputum Smear Microscopy. Results of External Quality Assurance of Microscopy Tests in 1st level laboratories in Luhansk oblast in 2013 in Luhansk on April 1, 2014 for up to 43 participants

PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-44	apr 15 - may 15, 2014	\$2,148	organization of 5-day training on “Cohort analysis of TB and MDR TB case management and its conformance with the national requirements and international recommendations” in Kherson on April 16-17, 2014 for up to 29 participants
PE Iryna Burun	Iryna Burun +38 066 707 1047	STbCU-FPA-45	apr 8 - may 7, 2014	\$1,563	organization working meeting for chief oblast TB specialists and chief physicians of regional TB control facilities on coordinating grant activities within the National social targeted program to combat TB for 2012-2016. The meeting was held on April 11, 2014 in hotel Bratislava, Kyiv, for 50 participants (35 arrive from regions). This is Chemonics / STBCU and the Ukrainian center for Socially Dangerous Disease Control of Ukraine co-sponsored event
NGO “Gromads’ke naukovo-medychne ob’ednannya phitisiativ”	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-46	apr 9 - may 9, 2014	\$8,865	organization of 5-day training titled “TB case management in primary health care facilities” in Dnipropetrovsk Center of Excellence on April 14-18, 2014 for up to 20 participants (20 participants and 2 trainers)

PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-47	apr 11 - may 12, 2014	\$3,083	organization of 5-day training on “TB case management in primary health care facilities” in Kyiv on April 14-18, 2014 for up to 27 people (25 participants and 3 trainers)
NGO “Gromads’ke naukovo-medychne ob’ ednannya phtisiatriv”	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-48	may 6 - jun 30, 2014	\$8,451	organization of 5-day training titled “TB detection and diagnosis by direct sputum smear microscopy. Quality assurance” in Dnipropetrovsk Center of Excellence on May 12-16, 2014 for up to 14 people (12 participants and 2 trainers)
NGO “Gromads’ke naukovo-medychne ob’ ednannya phtisiatriv”	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-52	may 28 - jun 30, 2014	\$10,897	organization of 5-day training titled “TB case management for the therapists of three Project regions” in Dnipropetrovsk Center of Excellence on June 2-6, 2014 for up to 22 people (20 participants and 2 trainers)
PE Taras Matviychuk	Iryna Peftibay +38 050 435 8080; +38 044 587 8750	STbCU-FPA-53	jun 20 - jul 21, 2014	\$2,522	organization of 2-day seminar for chief physicians of primary healthcare facilities on “Organization of observed TB treatment in Odesa oblast. Challenges and ways to address them” in Odesa on June 26-27, 2014 for up to 41 participants.

PE Taras Matviychuk	Iryna Peftibay +38 050 435 8080; +38 044 587 8750	STbCU-FPA-54	jun 17 - jul 17, 2014	\$174	organization of seminar on TB laboratory diagnostics for the laboratory staff of Level 3 TB diagnostics laboratories of TB care facilities. June 19 – 20, 2014 in hotel Myr, Kyiv, for 48 participants (33 arrive from regions)
PE Yuriy Serhiyenko	Yuriy Serhiyenko +38 063 29 11 414	STbCU-FPA-55	may 29 - aug 29, 2014	\$8,662	production of an educational video, which aims to increase primary healthcare providers' (family doctors') knowledge on DOT-based TB services and improve PHC's day-to-day practices on implementation of STOP-TB Strategy
NGO "Gromads'ke naukovo-medychne ob'ednannya phtisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-56	jun 12 - jul 14, 2014	\$10,036	organization of 5-day training titled "TB case management in primary health care facilities" in Dnipropetrovsk Center of Excellence on June 16-20, 2014 for up to 22 people (20 participants and 2 trainers)
NGO "Gromads'ke naukovo-medychne ob'ednannya phtisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-57	jun 19 - jul 18, 2014	\$11,952	organization of 5-day training titled "TB case management in primary health care facilities" in Dnipropetrovsk Center of Excellence on June 23-27, 2014 for up to 22 people (20 participants and 2 trainers)

NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-58	jun 19 - jul 18, 2014	\$8,595	organization of 5-day training titled "TB detection and diagnosis by direct sputum smear microscopy. Quality assurance" in Dnipropetrovsk Center of Excellence on June 23-27, 2014 for up to 14 people (12 participants and 2 trainers)
LLC "Hotel COMPLEX "RUS"	Natalya Kostenko +38 067 434 0010; +38 044 256 4115	STbCU-FPA-59	jul 16 - aug 29, 2014	\$2,996	provision of conference hall and meals for three-day workshop on planning the Project's operations for the Year 3 at Rus hotel on July 23-25, 2014
NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-60	jul 9 - aug 11, 2014	\$12,264	organization of 5-day training titled "TB case management in primary health care facilities" in Dnipropetrovsk Center of Excellence on July 14-18, 2014 for up to 22 people (20 participants and 2 trainers)
NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-61	jul 17 - aug 31, 2014	\$12,920	organization of 5-day training titled "MDR TB case management for TB doctors" in Dnipropetrovsk Center of Excellence on July 21-25, 2014 for up to 22 people (20 participants and 2 trainers)

PARUS KHARKIV REGIONAL CHARITABLE FOUNDATION	Olena Ovchinnikova, +38 066 85 99 606	STbCU-FPA-62	aug 13, 2014 – aug 25, 2015	\$22,523	Trainings for medical staff; Screening questionnaire and counseling support to PLWH and TB patients in penitentiary facilities; Improving access to information on the risk of TB/HIV co-infection in PLWH and TB patients of pilot clinical sites within the penitentiary system, including pre-trial detention facilities
Non-governmental organization “Infection Control in Ukraine”	Victor Lyashko, cell: +38 067 502 96 87 vklashko@gmail.com	STbCU-FPA-63	jul 18 – aug 18, 2014	\$10,235	organization of 5-day training “ TB IC in medical facilities of Ukraine” in Kyiv on July 21-25, 2014 for up to 23 people (20 participants and 3 trainers)
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-65	jul 30 – aug 29, 2014	\$1,054	organization of working meeting on "Effective organization of service provision and use of resources on case management of TB/HIV" in Kyiv on July 31, 2014 for up to 45 participants
PE Mykola Kuzmenko	Natalia Lukanyuk, tel +380 44 247-42- 82; fax +380 44 247- 42-81; cell +38 050 545-63-79 natalia@mbk.co.ua	STbCU-FPA-66	aug 15 – sep 15, 2014	\$2,844	organization of 2-day training on “Counseling patients and testing for HIV - infection on the initiative of health care workers in TB service and effective redirection” in Odesa on August 18-19, 2014 for up to 30 people (28 participants and two trainers)

PE Mykola Kuzmenko	Natalia Lukanyuk, tel +380 44 247-42-82; fax +380 44 247-42-81; cell +38 050 545-63-79 natalia@mbk.co.ua	STbCU-FPA-67	aug 19 – sep 19, 2014	\$2,876	organization of 2-day training on “Counseling patients and testing for HIV - infection on the initiative of health care workers in TB service and effective redirection” in Odesa on August 20-21, 2014 for up to 31 people (29 participants and 2 trainers)
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-68	aug 21 – sep 22, 2014	\$949	organization of working meeting on "Improving access and quality of counseling and testing for HIV at the initiative of health professionals TB services. Double advice on TB / HIV " in Odesa on Aug 22, 2014 for up to 34 people (34 participants and 2 trainers)
Non-governmental organization “Infection Control in Ukraine”	Victor Lyashko, cell: +38 067 502 96 87 vklashko@gmail.com	STbCU-FPA-69	jul 24 - aug 26, 2014	\$11,413	organization of 5-day training “ TB IC in medical facilities of Ukraine” in Kyiv on July 28- August 1, 2014 for up to 23 people (20 participants and 3 trainers)
NGO “Gromads’ke naukovo-medychne ob’ednannya phtisiatriv”	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-70	jul 29 - aug 29, 2014	\$11,937	organization of 5-day training titled “TB case management in primary health care facilities” in Dnipropetrovsk Center of Excellence on August 1-4, 2014 for up to 22 people (20 participants and 2 trainers)

NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-71	aug 8 - sep 8, 2014	\$11,381	organization of 5-day training titled "MDR/TB case management" in Dnipropetrovsk Center of Excellence on August 11-15, 2014 for up to 27 people (24 participants and 3 trainers)
Non-governmental organization "Infection Control in Ukraine"	Victor Lyashko, cell: +38 067 502 96 87 vklashko@gmail.com	STbCU-FPA-72	aug 7 - sep 8, 2014	\$11,643	organization of 5-day training "TB IC in bacteriological laboratory" in Kyiv on August 11-15, 2014 for up to 24 people (21 participants and 3 trainers).
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-73	aug 19 - sep 19, 2014	\$860	organization of a conference on "Quality Assurance of Sputum Smear Microscopy. Results of External Quality Assurance of Microscopy Tests in 1st level laboratories in Odesa oblast in 2013" in Odesa on August 20, 2014 for up to 49 participants
Non-governmental organization "Infection Control in Ukraine"	Victor Lyashko, cell: +38 067 502 96 87 vklashko@gmail.com	STbCU-FPA-74	aug 15 - sep 15, 2014	\$9,485	organization of 5-day training "TB Infection control activities in TB Service laboratories" in Kyiv on August 18-22, 2014 for up to 23 people (20 participants and 3 trainers)

PE Olha Klymenko	Oleksander Yefimenko, cell +38 063 47 04 542; office +38 044 249 5622	STbCU-FPA-75	sep 24 - oct 24, 2014	\$2,837	organization of 2-day seminar on "Prospects of TB-service reform" for about 70 participants including representatives of the Ministry of Health, the State Service of Ukraine on combating HIV / AIDS and other socially dangerous diseases, "Ukrainian center for control on socially dangerous diseases", the State Penitentiary Service of Ukraine, the USAID project "Strengthening tuberculosis control in Ukraine", WHO, NGO "Infection Control in Ukraine", "Yanovsky's National Institute of tuberculosis and pulmonology", heads of regional TB facilities, regional chief TB doctors, heads of central medical advisory committees. The seminar was held on September 25-26, 2014 in hotel Bratislava, Kyiv.
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-76	sep 5 - oct 6, 2014	\$2,382	organization of 2-day training on "Counseling patients and testing for HIV - infection on the initiative of health care workers in TB service and effective redirection" in Kherson on September 8-9, 2014 for up to 27 people (25 participants and 2 trainers)

PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-77	sep 9 - oct 9, 2014	\$2,046	organization of 2-day training on "Counseling patients and testing for HIV - infection on the initiative of health care workers in TB service and effective redirection" in Kherson on September 10-11, 2014 for up to 27 people (25 participants and 2 trainers)
NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-78	sep 11 - oct 10, 2014	\$11,698	organization of 5-day training titled "TB case management in primary health care facilities" in Dnipropetrovsk Center of Excellence on September 15-19, 2014 for up to 24 people (22 participants and 2 trainers)
NGO "Gromads'ke naukovo-medychne ob'ednannya phthisiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-79	aug 28 - sep 28, 2014	\$702	organization of 1-day workshop titled "Improving the quality of sputum collection for laboratory diagnosis of TB infection control elements" on August 29, 2014 for up to 28 people (participants) at Dnipropetrovsk Training Center
PE Ihor Suprunov	Alina Bryl' +38 050 419 8996	STbCU-FPA-80	sep 23 - oct 23, 2014	\$6,179	organization of 5-day training titled "TB case management primary health care facilities" in Odesa on September 22-26, 2014 for up to 24 people (22 participants and 2 trainers)

NGO "Gromads'ke naukovo-medychne ob'ednannya phitiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-81	sep 19 - oct 20, 2014	\$13,369	organization of 5-day training titled "MDR TB case management" in Dnipropetrovsk Center of Excellence on September 22-26, 2014 for up to 26 people (23 participants and 3 trainers)
PE Tetyana Velyka	Tetyana Velyka +38 096 81 44 888	STbCU-FPA-82	sep 26 - oct 27, 2014	\$5,888	organization of 5-day training titled "TB case management primary health care facilities" in Odesa on September 29- October 3, 2014 for up to 24 people (22 participants and 2 trainers)
NGO "Gromads'ke naukovo-medychne ob'ednannya phitiatriv"	Mykhaylo Brodsky +38 050 320 55 21	STbCU-FPA-83	sep 29 - oct 29, 2014	\$392	organization of 1-day round table for Central Medical Counseling Board members of Fiziatria TB facility and members of raion medical counseling boards "Summarizing the findings of mentoring visits to raion central counseling boards of Fiziatria TB facility on drug susceptible and resistant TB" in Dnipropetrovsk Center of Excellence on September 30, 2014 for up to 29 people.